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LEADING ARTICLES

INTERESTING PROBLEMS IN EAR, NOSE AND THROAT PRACTICE.

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SAINT LOUIS.

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I. TO HEAL PERSISTENT PERFORATIONS OF THE DRUM-HEAD.

ALTHOUGH not frequent, as a rule, in general practice, the occasions are nevertheless urgent, where it becomes necessary for the physician to have at hand some simple, yet reliable method of healing perforations of the drum-head, persistent without attendant discharge of secretions. For, not only does he meet this condition shortly after the patient has sustained an injury, but, less frequently, perhaps, in cases where an active suppurative process has entirely ceased, leaving a persistent and dry perforation, the cure of which appears, practically, an exceedingly interesting clinical problem.

To deal with the former, in such a way as to induce healing rapidly, while averting the evils attending prolonged exposure of the middle-ear structures to the vicissitudes of the atmosphere, avoiding the tympanic suppuration that usually attends the ordinary methods of interference, in such cases; and to dispose of the latter in such a way that protection may be permanent for the tympanic contents, and the special function restored, with all the joy and advantage that attend the recovery of serviceable hearing;—these give the matter an importance that may arouse, on the part of the progressive readers of THE MEDICAL FORTNIGHTLY, quick interest in a brief description of a simple method of accomplishing these ends, if supplemented with a short demonstration of its efficiency in clinical experience.

Although not new, the method which we are about to consider is one, not generally familiar to physicians; and, even amongst specialists, it seems to have failed of due appreciation. It was first publicly suggested to the medical profession by Dr. Clarence J. Blake of Boston, Mass., at the First Congress of the International Otological Society, which met in the City of New York in 1876. You will find a description of the method, made at that time, in the Transactions of that Society, published, in 1877, by D. Appleton & Co., of New York; and a more recent and exhaustive treatment of the subject, in the conjoined treatise of Dr. Blake and Dr. Reik, just issued by the same publishers, under the title of "OPERATIVE OTOLOGY, SURGICAL PATHOLOGY, AND TREATMENT OF DISEASES OF THE EAR." I beg to remark, in passing, that this work specifies several additional indications for the application of this method other than that for the healing of perforations of the drum-head, thus enlarging its field of usefulness in the hands of those familiar with all advantages.

The method of Blake consists essentially in applying to the perforation, a moistened disc of sized writing-paper, a trifle larger than the perforation. This is effected by cutting out of such paper, a disc sufficiently large to overlap the entire edge of the perforation; moistening it upon both sides with sterilized water or normal saline solution; carrying it to the perforation, upon the tip of a wet cotton-wool brush; applying it to the perforation, concentrically; pressing it snugly into apposition with a broad, flat, dry cotton-wool brush; and having the patient abstain from tympanic inflation of any kind or degree, for from twenty-four to forty-eight hours afterwards.

Amongst the principal advantages of Dr. Blake's method, may be mentioned: that it

closes the perforation in such a way that the drum-head is at once perfected as a sound-sail; the tympanum is kept filled normally with warm, moist air; the growth of new membrane is stimulated, at the edge of the perforation; a splint, or plane, corresponding with the circumference of the perforation, is supplied, upon which, without the otherwise unavoidable variable stress or flapping, the growth of new membrane across the perforation, takes place steadily, and upon the normal plane of the drum-head; and the discs serves also as a local stimulant, support, and tightener, in like manner, to loose or flapping parts of the drum-head, even where no perforation of the structure exists.

As evidence of the wide range of its application, in cases of perforated drum-head, I would state, in passing, that this method has availed me, to secure union by first intention, in a case where the entire antero-superior quadrant had been detached by a blow of the fist upon the ear. After replacing the detached flap, it was held in place by a Blake-disc; and after healing, thus, and subsequent removal of the disc, no evidence whatsoever of previous injury to the parts was recognizable.

I have employed this method, also, much to the astonishment of a brother-practitioner, in healing a perforation of his own drum-head, which had previously persisted for fully thirty-five years.

The advantages of this ready method are beautifully illustrated in the following cases:

Case I. — *Drum-head ruptured while wrestling.* G. S. R., aged 22 years, while wrestling, had his head suddenly and tightly compressed, from side to side, between the arm and body of his antagonist, attempting a strangle-hold. After the bout, his left ear felt numb and deaf; and besides a constant ringing in it, he heard an unnatural echo of his own voice upon that side.

Nine days later, on examination, a small crust, elliptical in shape, about one-eighth of an inch in its longest diameter, was found upon the left drum-head, just behind and below the umbo, or lower extremity of the handle of the malleus. This was carefully removed; and, near it, was found, a small, dry, slit-like perforation, about one-sixteenth of an inch in its longest diameter. This, examined with the utmost care, and with magnifying-glasses, proved to be prefectly dry and quiescent, and presumably persistent. No further abnormal feature could be noted in the affected drum-head.

The Blake-paper-disc was then applied; and its progress from the site of its original application toward the periphery of the drum-head was noted, from time to time. It was allowed to remain until it had passed clear outward to the inner edge of the wall of the auditory canal, just at its junction with the imaginary line marking the division of the upper and lower posterior quadrants of the drum-head; the perforation having healed over during its passage. This was now the thirty-seventh day since the disc had been originally applied. It was forthwith removed from the canal wall with a Jack's stapedectomy-hook; and there is now no evidence whatever to indicate the site of the original perforation.

Case II.—*Drum-head ruptured by blow of a sand-bag.* L. L. K., aged 39 years, was struck a severe blow, upon the left side of his face and head, with a sand-bag, in the hands of an enraged discharged employe.

Six days later, on examination, a dried, circular perforation of the left drum-head, one-eighth an inch in diameter, was found, close to and behind the umbo, or lower extremity of the handle of the malleus.

A forty-eight-inch watch could be heard with this left ear at a distance of but five inches; his own watch, at eight. The lower tone-limit for the tuning-fork was sixty-four vibrations a second, an elevation of one octave from the normal. Hearing by bone-conduction was better than that by air-conduction, from the fork of thirty-two, to that of two-thousand-and-forty-eight vibrations a second —the entire normal tuning-fork range.

After the application of the Blake-paper-disc, of circular form, three-sixteenths of an inch in diameter, the forty-eight-inch watch was audible, with this ear, at eighteen inches distance—showing increased hearing power, for this watch-tick,—over one-thousand *per-cent* greater than before. He could now hear his own watch at twenty-four inches distance —showing an increase of over eight-hundred *per-cent* in hearing power, for this sound; and he could hear a low whisper at thirteen feet distance,—the limit of capacity of the testing-room.

The disc remaining *in situ* until the sixth day, he was permitted to absent himself from observation for a considerable period of time.

On the twenty-sixth day after the disc had been applied to the perforation, it was found at the junction of the drum-head with the canal-wall, at the level of the imaginary line of demarcation between the postero-superior and postero-inferior quadrants of the drum-head. From this point, it was readily removed with a Jack's stapedectomy-hook, and a Dench-McKay forceps.

No trace whatever of the perforation was now visible; and the hearing was found normal; whereupon, he was discharged cured;

and there has since been no evidence whatever that any injury had ever been done to the ear.

CASE III.— *One drum-head ruptured while "sliding to base;" the other, by former inflammation of middle-ear.* W.E.W., aged 26 years, while "sliding for Third," in a base-ball game, struck his left ear against the opposing base-man's knee. Immediately afterward, and up to the time of consulting me, he found this ear practically deafened; he had a continuous buzzing in it, and an annoying echo whenever he used his voice. The night following the accident, he suffered from frontal head-ache.

Three days later, on my first examination, a dried, circular perforation of the left drum-head, three-thirty-seconds of an inch in diameter, was found, half way between the umbo, or lower extremity of the handle of the malleus, and the postero-inferior edge of the membrane. No signs of activity were recognizable about it.

A large perforation of the antero-inferior quadrant of the right drum-head, five thirty seconds of an inch in diameter was found; around which, and in the cul-de-sac of the canal, was found some muco-purulent secretion.

The patient stated, that he used to have discharge from the right ear for years; and that this right ear was "now" his "bad ear."

A Blake-paper-disc was applied to the left perforation at once; and behaved as usual in such cases. As soon as the right ear seemed to have become quieted, and no discharge had been noted for several days, a Blake-disc was applied tentatively; but this had to be removed, a couple of days later, on account of excess of discharge within the tympanum, which oozed out beneath the edge of the disc. After the disc had been removed, it was noticed, that the edge of the perforation had become raw; and the perforation had begun to heal. Treatment was then instituted, to place the tympanic contents in a more healthy condition; when the Blake-paper-disc was once more applied.

Eighteen days after the application of the Blake-disc to the perforation of the left drum-head, it was removed with a Jack's stapedectomy-hook, the perforation having healed, with normal hearing; and no trace or sign of the perforation remains to mark its former site.

After a brief period of time, not accurately recorded, the disc was removed, in the usual manner, from the right drum-head also; the old perforation having finally healed.

(To be continued.)

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METABOLIC ASPECTS OF OVER-FEEDING AND OF UNDER-FEEDING.*

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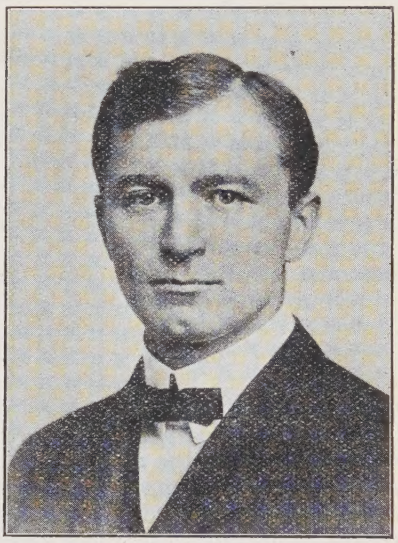
IN these days, in which we have so much to do with the various disorders arising, directly or indirectly, from the use and abuse of our diet, it seems fitting to ask ourselves whether we are justified in ordering a certain diet in one case and a definite diet in another. It is not my intention, in this paper, to outline what, to my mind, seems the proper dietary in various ailments and diseases with which we are all confronted, but, rather, to discuss, briefly, certain phases of the subject of over-feeding and of under-feeding.



RALPH W. WEBSTER, M. D.

NORMAL STANDARDS.

Before proceeding with such a discussion it is imperative that we fix clearly in mind just what we are to regard as the normal dietary standard for a person in good health and physical condition. At the outset we must remember that certain factors, such as age, sex, occupation, climate, external surroundings, etc., have a great influence in determining the amount of food necessary to maintain one in a condition of healthy equilibrium. Hence, in speaking of a normal standard diet, I will refer, later, to the diet of a healthy adult male doing a moderate amount of work.

As we all know the standard diet of Carl Voit has long been accepted, more or less generally, as representing the needs of the

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body under normal conditions of life. He considers that a person of 70—75 kilos weight requires 118 grams of proteid (of which 105 grams must be absorbable), 56 grams of fat, and 500 grams of carbohydrate. This standard of Voit represents, therefore, a calorie value of 3055.6 or 43.65 calories per kilo of body weight.

The standards of Ranke, Atwater, Schmidt, Gautier, and others are approximately the same, although they differ somewhat in the relations of the different constituents. Von Noorden states that 1.3—1.5 grams of proteid per body-kilo are necessary to maintain the body in nitrogenous equilibrium, while it is immaterial whether the requisite calorie value (35—50 calories per kilo depending on the amount of work done) is brought up by fat or carbohydrate.

Recently Chittenden, in an elaborate study of the proteid requirements and metabolism of different classes (teachers, professional men, soldiers, and athletes), has shown that nitrogenous equilibrium may be satisfactorily maintained with about $\frac{1}{3}$—$\frac{1}{2}$ of the proteid standard of Voit. This work is of exceeding importance as it proves, beyond a doubt, that the proteid need, as indicated by the maintenance of nitrogenous equilibrium, is far below our generally followed standard of Voit. As Chittenden's experimental subjects were in excellent condition, both physically and mentally after a period of several months on such low proteid diet, it is very apropos to ask, "Is there any real scientific ground for the assumption that the average individual, doing an average amount of work, requires any such quantity of proteid or of total nutrients as the ordinary dietetic standards call for? "While it is true that this lowered standard of Chittenden may maintain the various individuals studied in nitrogenous equilibrium, it does not do so without answering the total caloric need of the individual, as evidenced by the fact that all of the subjects showed a calorie consumption of 30—40 calories per body-kilo: Chittenden says, "It is self-evident that the smallest amount of food, that will serve to keep the body in a state of high efficiency, is physiologically the most economical, and hence the best adapted for the needs of the organism. Any excess over and above what is really needed is not only uneconomical but may be directly injurious." Although it is doubtless true that the unnecessary overloading of the system with excessive products of proteid metabolism, may, in time, weaken the digestive, absorptive, assimilative, and excretory functions, yet we are not warranted, it seems to me, in assuming that the life and happiness of a normal being are, necessarily, imperilled by a strict adherence to the Voit standard. As Magnus-Levy puts it, "Is it actually the case that life is constantly endangered, hovering as it is between the Scylla of toxins and the Charybdis of metabolic end-products?"

The question might be asked at this juncture, why do we consider the proteid content of a dietary as so much more important than the fat or carbohydrate values? If these latter constituents are utilized at all, they are oxidized to simple products, which are easily excreted and, hence, cause no undue strain on the assimilative and excretory organs. Of course before being oxidized, a portion of both of these is stored up in a passive form subject to further orders from the system in general. I have, naturally, no reference, here, to the effect of an excessive fat or carbohydrate diet, which is a factor in the production of obesity or of diabetes.

With the proteids, however, a somewhat different course of events is observed. To be utilized by the system proteid must be built up into its constituent protoplasm. We are all familiar with the differentiation of proteid as organized or unorganized, stable or, labile, tissue or reserve, etc. It is unnecessary for me to do more than call attention to the conception of "reserve proteid" as being entirely analagous to reserve fat or carbohydrate. The proteids, on oxidation, are spilt up into various nitrogenous products, some of which may exert, if present in sufficient quantity, or if acting over long periods of time, untoward effects preceding and during their excretion. These metabolic end-products, or toxins as they have been styled, may cause some specific or local disturbance, which calls for their speedy removal. In the elimination of such products through the kidneys, definite lesions or at least functional insufficiency may arise. Moreover, the other organs of the body, which have to do with the further elaboration of these products, may suffer functional impairment in their attempt to keep pace with the excessive supply of elaborative material. Our knowledge regarding the formation and excretion of these nitrogenous end-products is too meager to permit us to say whether increased formation is accompanied by increased excretion of each product or whether, on a diet rich in proteids, these substances are retained to a greater extent than on a diet such as is advocated by Chittenden. On the solution of this point depends, it seems to me, the decision whether the Voit standard is a dangerous one. Naturally the excretion of an increased amount of these end-products might influence the secretory organs, but it remains to be proven whether the kidney, in health, is

or is not capable of excreting the products of metabolism of the proteid standard of Voit, without suffering undue strain.

Folin, in his careful work on proteid utilization, through which he was lead to formulate his "Theory of Proteid Metabolism," comes to the conclusion that our proteid dietary is much too high. His figures agree fairly well with those of Chittenden and are based on determinations of the exogenous and endogenous nitrogen. His work shows us how futile it is to draw conclusions, regarding the nitrogenous metabolism, from the amount of urea excreted. Of much greater importance is the nitrogen partition and, particularly, the amount of creatinin excreted in twenty-four hours, inasmuch as this nitrogenous constituent is the one nitrogen factor uninfluenced by a variation in the meat-free proteid diet.

It would seem, therefore, that we must accept the possibility that our proteid intake may be diminished to one-third to one-half of the Voit standard without causing any disturbance of the nitrogenous equilibrium or of the general health and physical activity. However the writer is inclined to believe, without having definite experimental grounds for his belief, that a diet, which keeps strictly within the prescribed standard of Voit, will work no lasting ill-effect, unless the system be undermined by disease, which is not traceable to errors of diet, and in which no sensible physician would order a dietary high in proteid until the period of convalescence had been definitely established. It is most certainly true, that a moderate diminution of proteid is less harmful, providing the total diet be sufficient, than is an abundant proteid diet with a calorie deficit (von Noorden).

Accepting, then, that the average diet of a normal individual should contain from 30—50 calories per body-kilo and that the proteid-content of the dietary should run between three-fourths and one and one-half grams of proteid per kilo, we come to the discussion of the subject of our paper.

OVER-FEEDING.

By the term over-feeding or forced-feeding we mean the giving of an amount of food, which furnishes the body more energy than it needs, utterly regardless of whether the addition be in the form of proteid, carbohydrate, or fat (von Noorden).

The errors in diet, which most of us, unfortunately, commit, are productive on the one hand, of various disorders as a result of the overtaxing of the digestive, absorptive, assimilative, or excretory organs with excessive products of metabolic activity, and, on the other, of a series of peculiar derangements, pointing to a condition of under untrition. I need only refer to the obese, diabetic, and gouty subject on the one side, and the neurasthenic, neuralgic, and chlorotic patient on the other. I shall, therefore, in this paper, treat of the subject of over-feeding, only as a therapeutic measure and not as an etiological factor in disease.

It has been shown by Rubner, Magnus-Levy and others, that addition of an excess of food, in the form of fat or carbohydrate, exerts, even when given in large amounts only a slight increase in the energy relations of the system. This, of course, applies to an immediate increase in the oxidative processes and not to the later effects of the reserve fat or carbohydrate. Only a part of such excess is burned up in the system, the chief part being stored in the various depositaries subject to the checking orders of the system. On addition of fat to the diet almost the total excess of energy is turned to the advantage of the body, not in the form of increased energy, but, rather, in the form of latent energy as a deposition of fat. Zuntz has proven, that of 100 grams of fat-increase in the diet, 97-8 grams were stored up. With the carbohydrates the relations are not quite so high. A loss of 10%, according to Zuntz, is observed in the total energy available from an increase of carbohydrate. Moreover, the conversion of the carbohydrates into fat is accompanied by some loss of heat.

An increase of proteid in the diet raises, on the contrary, the general tissue metabolism, as evidenced by the increased oxidation, far above the normal standards and far above that, which could be traced to the activity of the bowel. This primary increase in the oxidative processes, which is effected by a meal rich in proteids, lasts for eight to ten hours. This fact may be expressed more briefly in the statement that, every addition of proteid increases the proteid decomposition, the system soon adapting itself to a new equilibrium. Right here it may be well to point out that it is erroneous to refer every loss of nitrogen to an increased decomposition of body-proteid. There is no reason for supposing that tissue-proteid is decomposed in any different way than is food-proteid. Likewise we are not justified in assuming that the products of tissue-metabolism are, normally, or abnormally, any different from those of food-metabolism under the same conditions. The point of all this is, that the increased nitrogen excretion observed under certain conditions may be referable to the proteids of the food and not to those of the tissues.

PROTEID-SPARING.

We all know that every addition of proteid to a normal diet yields a nitrogen retention for a few days and that the nitrogenous equilibrium is under these conditions, pitched to a higher scale as long as this increase lasts. Under a normal diet the proteid of the food is completely decomposed, the output equaling the intake. If the diet contains a normal amount of proteid but is increased by the addition of N-free constituents, a certain amount of N. is retained in the body. This is the well known point of proteid sparing and seems to be an exception to the law, that the body under all circumstances seizes, in the first place, upon the easily available proteids. If, however, we make an application of Guldberg-Waage's Law of Mass-Action, we see that the mass of a substance may be so great as to overbalance the greater affinity of a substance present in less quantity.

It has been shown that a large excess of fat and carbohydrate is necessary to protect small amounts of proteid from being oxidized in the system. If we withdraw large amounts of carbohydrate from the diet, the proteid decomposition increases, while the withdrawal of fat does not cause such a marked disturbance in the proteid metabolism. I mean by this that the nitrogenous equilibrium is better maintained by excess of carbohydrates than by fats, or in other words, sugar is a better "sparer" of proteid than is fat. This point is of great importance in the treatment of the obese.

The fact that the body endeavors to regulate its proteid decomposition according to the intake and, hence, to oxidize the largest possible percentage of the proteid of the food, suffers exceptions in youth, pregnancy, convalescence, etc., inasmuch as growth and development of tissue would be impossible without a definite change in the nitrogenous relations.

FLESH AND FAT.

It would seem, then, that we have two ordinary forms of over-feeding. The one leading to increased fat formation and deposition, and the other to increased deposition of proteid. It is not an uncommon thing to find in our literature flesh and fat used as synonymous terms, but it seems needless for me, in this place, to point out the distinction between them.

It is self-evident that we may increase the fatty condition of the body regardless of the proportions of the food in a course of forced-feeding. Theoretically there is no limit to the extent of this fat deposition, but practically it is limited by failing intestinal activity and disease of the vital organs. Naturally, however, one seeks, in instituting such a course, only the certain optimum nutrition. The rest-cures of Weir Mitchell, which consist of forced feeding along with massage and light exercise, tend to produce fatter but not stronger and more fleshy patients. In other words, the forced feeding works here as in the case of the Strassburg goose and not as in the case of the athlete. Muscular exercise, along with forced-feeding, gives far better results than the rest methods. Zuntz reports a case in which systematic muscular exercise for many days and weeks, along with forced-feeding, caused loss of weight but a simultaneous deposition of proteid, the calorie-consumption being greater at the end of the research than at the beginning. This experiment is confirmed by the every-day experience of our athletes.

INCREASED CALORIE-CONSUMPTION.

The increased calorie-consumption, as a result of forced feeding, rests upon two different factors (von Noorden):

1. The increase of decomposing protoplasm.

Although definite relations exist between consumption of energy and body-mass as well as amount of surface, the amount of active decomposing protoplasm is of great importance in regulating the consumption of energy. The body-mass (weight) is important in average nutritive conditions only in so far as we may assume that a certain unit of weight of protoplasm corresponds to a certain unit of body-mass. If fat is added by over-feeding the body accumulates a weight-increasing substance, which shares very little in the energy relations of the body. As a result of this loading with ballast the conversion of energy, calculated to unit of weight, sinks under forced-feeding, as in instanced by the smaller energy equivalent per kilo of the obese. No definite quantitative relations have been established between increase of protoplsm and increase in consumption of energy, but such relations must exist.

2. Increase of body-mass, independent of the increase of protoplasm It is evident that the heavier the body-mass the more energy is needed to move or raise it. Hence, we observe the increase of work upon the muscular system, heart, and respiratory apparatus of the obese. As mentioned above an increase of fat cannot aid in the oxidative processes through the influence of the fat itself but only through the weight-increasing influence of this otherwise useless substance. We all admit the value of a certain amount of fat as a reserve to meet the demands forced on the body by over-work or by disease, but few of us would

be rash enough, I believe, to proclaim the advantages of the excess fat in the obese.

It is well to remember that the excess of food is not so important for the maintenance of the high nutritive condition as is the vital property of the protoplasm. We are, therefore, forced to admit that the ordinary forced-feeding, which leads to a deposition of fat and hence does not increase the direct energy equivalents of the system, is not the best practice.

INCREASE OF NITROGEN.

Von Noorden, Fr. Müller, Svenson, and others have shown that the human organism is not, under all conditions, disposed to N-deposition. However, when an increase of N does take place in the system it may do so in several forms:

1. As extractives.
2. As proteid.

(a) Organized proteid.

(b) Unorganized porteid, labile proteid, reserve proteid, etc.

If the increase of nitrogen in the system has taken place in the form of extractives, we may have either an increased formation or a diminished excretion of these substances. It is not my purpose to discuss the importance of these factors as etiological units in disease; that would draw me too far from my theme. However, I must mention the facts that we have, in disease, both a primary retention and a primary formation of increased amounts of these substances as evidences of diseased conditions in the body.

The fact of the non-utilization of the unorganized or of the reserve proteid under normal conditions, has been previously mentioned. There may be a retention of nitrogen, but this does not, necessarily, mean an increase in the organized proteid. An increase of flesh in adult animals means an increase of volume, a hypertrophy of the individual cells but not an increase in their number (Magnus-Levy). Thus we see the increased muscular development under forced-feeding along with muscular exercise.

Although we have learned from research several methods of increasing the proteid of the body, we have little information as to how far the forced-feeding may go and what happens to the deposited proteid if the subject returns to his normal diet. It has been generally found that the retained proteid is lost under such circumstances. This makes it clear why the forced training and feeding of athletes is apt to result disastrously unless the same procedures, perhaps in a lesser degree, are kept up after the periods of active training. Too common are the uncompensated hearts and the emphysematous lungs to need mention. While such changes are largely due to the strain of the training, the diet must be held partly responsible, inasmuch as the increased size of the organs and the hypertrophy of the individual cells is a result of the increased nutrition as well as of the increased work. Drop both and the condition is evident.

The question arises as to whether the deposited nitrogen is new capital with the same biological properties as the old. We must consider, in this connection, that not all of the nitrogen intake is converted into tissue proteid to compensate for the nitrogen output. It is certainly the case that, in the consideration of nitrogenous equilibrium, we usually regard the nitrogen output as equaling the intake. We, unfortunately, do not know just how much of this nitrogen intake is built up into true tissue-proteid nor how much of the nitrogen output is derived from decomposing tissue-proteid. Before the unorganized proteid or the retained extractive nitrogen can be utilized it must be converted into tissue-proteid as this is the form capable of oxidation. There is no reason for supposing that tissue-proteid, under the influence of the constantly occurring autolytic changes, splits any differently than does food-proteid, and hence we must consider the possibility of a synthesis of tissue proteid both from the cleavage products of food-proteid and from those of the autolysis of the tissue-proteids themselves. If the latter assumption be correct we must ask the question, may the tissue-proteids be renewed by the autolysis, and later synthesis from its own autolytic products? Such a change might seem useless, but when we consider that the wear and tear of the system necessitates the constant breaking down of tissue-proteid and its renewal by new synthetic products the possibility does not seem so far-fetched. Were the tissue-proteids not constantly renewed the subject of nitrogenous equilibrium would be much simplified, as the output would consist, largely, of the metabolized and excreted intake rather than of the autolytic and retrograde products of tissue metabolism.

Time will not permit me to enter upon a discussion of the various ways of synthesizing proteids and so I can do no more than refer to the importance of the study of the work of Fischer upon the polypeptids. This work bids fair to unravel much of the mystery surrounding the chemical and "vital" activities of the "Awesome proteids."

How is it possible to decide whether a retention of nitrogen in the system means a gain in tissue or of reserve proteid? I quote from von Noorden.

1. If a deposition of N means proteid deposition, sulphur must also be retained.

2. If S-containing proteid, but no mineral constituents are retained, then the blood and lymph tissues come into consideration as the place of retention. In this case, the deposition of proteid is in the reserve form.

3. If proteid and mineral constituents are retained, then the proteid is built up into the constituent protoplasm of the system. A relatively large phosphorus retention is, as is well known, intimately connected with an increase of nuclear substance.

INDICATIONS FOR FORCED-FEEDING.

Forced proteid feeding is indicated in growing children, in pregnant and nursing women, in persons accustomed to increased work, in those who are under nourished as a result of chronic conditions such as carcinoma, tuberculosis, stomach diseases, etc., and in those convalescing from acute febrile conditions. In this latter group of cases the results to be obtained are far better than those observed where the inanition is due to chronic diseases.

UNDER-FEEDING.

It has been well said that he, who does not know how to estimate in how far the changes, which he observes at the sick-bed, are dependent on simple inanition, can not rightly interpret the metabolic changes, which arise from the disease itself.

Under this caption I will, varying from the method adopted in the discussion of over-feeding, refer more to the effects of a long continued under-feeding upon the system than to any therapeutic application, in asmuch as we can conceive of no case in which the adoption of a course of under-feeding would be advisable other than in the obese and in those who are chronically overfed.

By under-feeding we mean the giving of a diet insufficient in calorie value to meet the needs of the organism. Naturally we may have an under-feeding with one constituent and a relative over-feeding with another, and yet the calorie value be insufficient.

It is self evident to us all, that a definite relationship between proteid, carbohydrate, and fat is consistent with the best nutritive condition of the system. Granting that a normal individual needs a definite number of calories to satisfy the demands of the system, we must endeavor to supply this need by a proper combination of constituent dietary principles. An exclusive and excessive meat diet with insufficient calorie value (and a sufficient calorie value would be with difficulty reached in this way) will just as surely lead to under nutrition as will a general calorie reduction with relative decrease in all the constituents of the diet. A high addition of proteid, if unprotected by a sufficient amount of N free food, is unable to maintain the nitrogenous equilibrium, because the energy required for the preservation of the body functions must, in this case come from increased proteid change. Hence we should recognize as a law that, caloric undernourishment, with high proteid content, can not protect the system against loss of body proteid.

It is true that, at present, under nourishment or underfeeding is usually referred to as a lack of nitrogenous substances in the diet. Yet we must remember that the fats and carbohydrates, if reduced to a marked extent, will not only lead to a loss of proteid, but will necessitate an increase of nitrogenous substances in the diet in order that the requisite calorie value be maintained. In this way we might conceive of the paradoxical condition of a one-sided over-feeding combined with general under-feeding. Of course the metabolic results would here be very different from those of an over-feeding previously discussed, because, technically, we have no increase of calories and consequently no over-feeding.

General under-feeding leads to a loss of glycogen, fat, and both organized and unorganized proteid. Without sufficient calorie value of the food and, in general, without a definite relationship of the constituent parts of the dietary, the system can take little or no advantage of the diet, but, rather, uses up its own store of these constituents to furnish the energy required. We can readily see, therefore, why long continued under-feeding leads to gradual weakness and impairment of functional activity throughout the system. A certain amount of fat deposit is, as stated above, a protection against greater N-loss on an insufficient diet. Thus, in the obese a calorie deficit does not always lead to N-loss, at any rate more seldom and in less degree than in the spare.

The following general effects of a long continued under-feeding are to be recognized (von Noorden):

1. The proteid decomposition sinks up to a certain point, beyond which further decomposition is serious. The body, at this point, adapts itself to a fairly permanent equilibrium, as is shown by the fact that not so much body-proteid is lost in the later periods as in the beginning. Nitrogenous equilibrium can be maintained, as Voit, Rumpf, Siven, and others have shown, on a lower proteid addition than is customary, provided the calorie need is covered. I recall, in this connection, the maintenance of nitrogenous

equilibrium by Chittenden with a much lowered proteid diet, but with sufficient calorie value to prevent any under-nutrition, the subjects showing slight gain in strength and physiologic activity rather than a loss.

2. Long continued under-feeding, aside from very slight degrees of calorie deficit, lead to constant loss, not only of body fat, but also of body proteid, immaterial whether the proteid intake be large or small. The absolute height of the N-excretion depends on the amount of proteid but the maintenance of nitrogenous equilibrium is independent of the amount as a balance is established to suit the intake. A calorie poor diet, which is rich in proteid, may protect the N-loss or may even raise it for a time, but the final result will be the same as if all parts of the diet were simultaneously reduced.

3. Whenever the addition of food lessens the calorie deficit, a building up of cell material takes place, although the calorie need, at this time, may not be completely satisfied. This condition lasts until the body is accustomed to the new equilibrium, when N-loss begins anew unless the calorie need is absolutely covered.

I will reserve for a later paper the discussion of the changes occurring in the secretions and excretions of the body in under-feeding and in over-feeding, inasmuch as a discussion of these factors would alone consume my time. I would, however, interpose a word of caution concerning the referring of every variation in the output of nitrogenous constituents to an abnormal tissue-proteid metabolism. We must, today, lay more stress upon the nitrogen partition than upon the determination of any one nitrogenous constituent and, moreover, it seems to me, the time is almost ripe for a more detailed investigation of the excretion of the amido-acids in under-feeding, overfeeding, and in various diseases. If a former contention of the writer be substantiated, that a variation in the chemical properties of albumins may be shown by the quantitative examination for various amido-acids, then we may have more light thrown upon the nitrogenous exchange of the system.

It can only be self-evident that the metabolic changes arising from over and under-feeding are in part traceable to direct tissue decomposition and in part to normal and abnormal decomposition of food. Without a knowledge of such changes, we cannot judge of the specific changes of a concomitant disease.

CONCLUSION.

In these remarks I have not attempted to bring out any new facts, but have tried, solely, to present what we know regarding some phases of the metabolism in the conditions under discussion. Criticism may be advanced against some of the statements herein contained, but as they are all based upon experimental data, we must, at any rate, give them our earnest consideration. That many conditions, now recognized as obscure, may soon be traceable to simple over or under feeding, is probable and it is the object of this paper to present certain facts, which may enable us to refer such conditions to their proper nosological position. A more thorough study of many points not yet clearly defined, will permit us to understand more definitely with what we are dealing and how it may be corrected. My plea is, merely, for a more scientific and more intelligent recognition of the advantages and disadvantages of a dietary in bringing about a more normal condition of our patients, whether they be racked with disease or whether they be suffering with malnutrition, excessive or deficient.

100 State street.

PRACTICALLY all the best fish-hooks in the world—and nearly so of all qualities—are made at Redditch, England. The annual output is probably 500,000,000 hooks, about 10,000,000 per week, ranging in size from enormous and ferocious-looking shark hooks to the tinniest hooks for very small trout-flies, with a "bend" diameter of about one-sixteenth of an inch, a thousand of which will not more than fill a good sized thimble.

THE SALE OF ABSINTHE has been forbidden in the Swiss canton of Vaud; and this is good temperance reform. No doubt the other cantons will fall in line. This drug induces not only the ordinary alcoholic craving, but also a habit peculiarly disastrous to the brain. The Swiss, however, show themselves a canny folk in manufacturing the stuff for those who don't know better than to use it, but forbidding their own citizens to touch it.

THE WORLD'S PHYSICIANS.— There are 228,234 doctors in the world, declares L'Illustration. 162,333 are distributed over Europe, as follows: In England, 34,967; Germany, 22,518; Russia, 21,489; France, 20,348; Italy, 18,245. The proportion of physicians is: In England 78 to 100,000 of the population; France 51; Turkey, 18. With regard to cities: In Brussels the proportion is 241 to 100,000 of the population; Madrid, 209; Budapest, 198; Christiana, 181; Vienna, 140; Berlin, 132; London, 128; Athens, 123; Paris, 111; New York, 74; Constantinople, 35.

SURGICAL PRINCIPLES AND THEORIES.*

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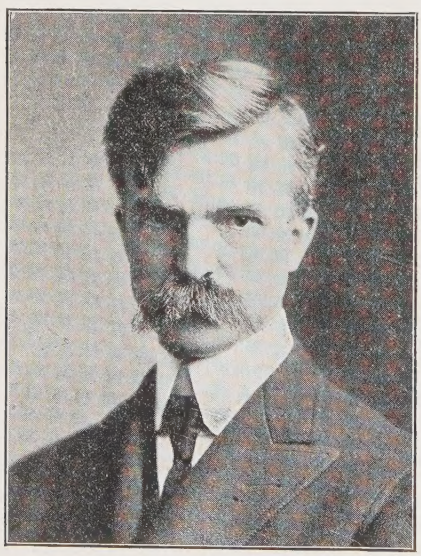
FIRST, there is no class of men which from ancient past to present day has lived and worked for more worthy ideals than the medical profession.

Second, there is no more representative body of the medical profession that represents the best in the profession to a higher degree than does the Mississippi Valley Medical Association.

Third, to be chosen to deliver the surgical oration before this representative body is,



DR. FLORUS F. LAWRENCE.

therefore, an honor equal to any in the gift of the profession, hence an honor for which I have not words to thank you. It is I assure you an honor which I prize now and shall cherish in the future. However, there is in it an element which detracts from its pleasure, viz., that I am compelled to stand in comparison with the brightest lights in the surgical world, Murphy, Mayo, Ochsner, Haggard and the other equally great men who have preceded me.

You may not agree with all I say, it would be strange if you did, but every word comes from an honest and abiding faith that principle is greater and more powerful than theory or fad, and equally strong belief that in recent years our profession has been controlled or actuated too much by fanciful theory and popular fad. To verify this, look through your text-books of surgery; visit frequently any or many of the great surgical clinics, and then tell me how much you find, hear, or see relating to the minute details of treatment following the operation. Tell me how much instruction you receive relative to the detail of preparation for the operation. As a particular mark of this deficiency find me ten pages of practical printed instruction regarding the treatment of those not infrequent cases of suppression of the urine—of the real pathology or etiology. No, all the spectacular, all the patent part of surgery is constantly shown, written and talked about. The all-important drudgery and life-saving part is a blank. Another vacuum is found when you look for the consideration of the psychological element. We all know that fright will, and does, produce as dangerous a shock as traumatism, but the effect of the mind upon the sympathetic is not mentioned in our surgeries or in our clinics. Men send suffering, nervous patients to the hospital today, and operate tomorrow, regardless of the fact that the mind of the patient would be more tranquil, and his sympathetic more stable after a few days of hospital regime. These are only a few of the important features of which more should, and must be taught. Others are the dietetics of surgery, the abuse of ice, and many more of equal import. Instead of being leaders we have been followers.

The ideal in surgery may never be completely attained. We can, however, make little or no progress without an ideal. It is an old but trite saying, that "The river never rises higher than its source." It is equally true that as the stream flows farther from its source, becomes wider and deeper, the danger of pollution increases, and while it grows more useful with increase of power, to human needs, it also becomes an increased source of danger unless guarded from pollution, and kept within strong and safe embankments. It is also true that a stream having its source in polluted territory and flowing through marsh land is never fit for human use.

The source of every stream in science ever has been and ever will be the ideal. If that be high and if the outflows be guarded, as it widens and deepens, its draughts are healthful, its increasing power becomes a constant benediction. While if the ideal be in the slough of commercialism and its source through the fields of personal vanity and greed, the reverse is true.

* Address on Surgery delivered before the Mississippi Valley Medical Association at Hot Springs, Ark., November 6, 1906.

Among the wise meditations of Marcus Aurelius is: "Be always provided with principles for these two purposes: First. To engage in nothing but what reason dictates, what the sovereign and legislative part of you should suggest, for the interest of mankind. Secondly. To be disposed to quit your opinion, and alter your measures, when a friend shall give you good grounds for so doing. But then the reasons of changing your mind ought to be drawn from some consideration regarding justice and public good, or some such generous motive, and not because it pleases your fancy, or promotes your reputation."

No better statement of the position surgery should occupy can be found.

From the ruins of the cities in the Holy Land, much that verifies the best traditions of the past has been recovered. From the history of ancient Greece and Rome, much that makes for a sturdier manhood, a broader citizenship and a truer philosophy, finds revelation. From careful study of the ancient writers in medicine and surgery we may find inspiration to higher aims, truer philanthropy, and less of self-centered interest, which will make for a great art founded upon a science illuminated by the accumulated wealth of the great intellects of centuries. We cannot today lay claim to much that has not been anticipated. The philosophy of the past has undoubtedly been to a large degree supplanted by the push and press of the commercial spirit of today.

Surgery has not escaped unscathed. The days when teachers instead of schools provided means of qualification were not the darkest days of the profession. The wig and cane have gone, but pedantic character still finds a following. The shrewdly veiled mystery of a Sir John Long, a Mesmer, or an Aikenside is re-embodied today in the assumed manipulator of public sentiment who is frequently to the front in the daily papers with some "wonderful operation," or "the knife rescues Mr. Blank from a horrid death," etc., ad nauseum. The medical society does not escape the basketful of specimens which bespeak the operator's popularity, while they add not one jot or tittle to the knowledge of surgical principle and elucidate not one single surgical theory. They serve usually only one purpose, viz., to exploit the prowess of the individual, hence are no more to be commended than John Long's wildest escapade. I do not mean to decry the presentation and study of pathological specimens, but every specimen presented to a medical society should have careful study and should serve the purpose of demonstrating some surgical principle, or of proving some fact in pathology. The cursory case report never has or will accomplish any honest good to the profession. The "Usual uninterrupted recovery" statement is of no scientific value if the facts as shown by daily record of the case shows that the pulse, temperature and respiration were abnormal any or much of the time during convalescence. The value of a method of operating, a system of care before and after operation is only to be determined by the absence or presence of even slight untoward symptoms. It is worse than folly for us to expect thinking men to accept as a scientific opinion one full of inaccuracies or untruth. The principle cannot suffer by thorough and frank study and report of the sequence of its application. Theory can never assume the dignity of principle by any system of oratorical or rhetorical exploitation unsupported by thoroughness and frankness in detail. The statement so frequently made, "I cannot talk freely and frankly with my patient about his condition" is an acknowledgment of lack of faith in the correctness of our own position, and if a man has not faith in his own efforts he cannot reasonably expect the other fellow to have faith in him.

Hence the importance of distinguishing between surgical principles and surgical theories. Principles are always life-saving. Theories have sacrificed many in the attempt to prove. Principles always subserve the patient's interests. Theories frequently have as their chief support the personality of the theorizer. For centuries theories have proved profitable from a financial standpoint in proportion to their fanciful or mysterious character.

It is probably true that no man can understand pathology who has not a pretty fair knowledge of philosophy, embryology and physiology, if indeed he need not biology. How then can a surgical theory which is not based upon sound philosophy and which is not proved by correct pathology ever become a surgical principle. Are we drifting too much with the tide of clinical empiricism and placing too much stress upon the operative clinic.

The age at which a principle was established does not detract from it, whether in the fourteenth or twentieth century. The enthusiasm with which a theory is announced or received will never suffice to convert the theory into a principle. From these corollaries the deduction is that all established principles should have our respect and command our practice, while all theories, no matter how attractive and no matter by whom promulgated, should be measured by the scale of logic, weighed by the balance of

philosophy, squared by the square of competent experience, and set by the plumb line of results. This and this only can ever demonstrate that a theory is founded upon principle. The scale of logic will measure all arguments by first determining whether the premises upon which our conclusions are based are false or true, hence we will determine the truth of the conclusion. The best illustration of the absence of logical measurement is to be found in the various operations devised for correcting uterine deviations, wherein the fallacy of the conclusions (which are based upon empiricism) lies in the false premises, that by converting one pathological condition into another we effect a cure, as in fixing the uterus to the abdominal wall or to the anterior vaginal wall. If the reasoning had been based upon logical premises the authors of these barbarisms would never have coined the terms ventro-fixation and ventro-suspension. This may seem radical, but we must remember that an argument involving a philosophic principle cannot be a logical argument if in either of its premises, or in the conclusion there be false or unsound philosophy. The mad race for some form of notoriety which will bring consultation business may possibly in some instances have led to a theory being put into practice without due consideration. Until this incentive is subordinated to that higher motive which leads us into the paths of truth, we must expect the criticism of the lay mind, "That doctors never agree" There is no disagreement among surgeons except where the opinions rest solely upon theories.

The evolution of surgery has been one of the most interesting and at the same time one of the most peculiar of the past. Interesting because, like man's faith in Diety, certain fundamental principles have been recognized for ages. There is probably a most unfortunate tendency to ignore the great masters of former years who were given to certain analysis and concise teaching the principles which they evolved, and to follow the man of today whose book is too often embellished chiefly in the binding. In the light of modern research some of these older books probably do contain some false doctrines, but could we say that all, or even a large percentage, of recent books promulgate no false doctrines? The knowledge of medicine or surgery without a comprehensive study of its development is at best a very limited and unreliable thing. This is true of any science, but it is particularly true of medicine and surgery. Many of the claims at present put forth for originality may be found to have been very lucidly taught, so far as the principle involved is concerned, by some of the writers of many years ago, although the modern author has added to or perfected details of technique. For instance the work now being so satisfactorily done in intestinal surgery and accredited to modern teaching. There is not a single philosophic principle, anatomic detail or mechanical manipulation which was not thoroughly worked out and taught by Benjamin Travers one hundred years ago. The only thing of real value which modern teaching has added is asepsis and the Murphy button, and this latter does not add any new surgical principle, any more than does the McGraw elastic ligature, Senn's bone plates or the Robson bobbin. These are all simply mechanical devices to aid in applying the surgical or pathological principles of intestinal union taught by Travers, Sir Astley Cooper and Percival Pott. The decalcified bone plates or bobbins were used long years before (in the thirteenth century) by the "five great masters." Every principle which has proved of life-saving value in abdominal and pelvic surgery was worked out a quarter of a century ago by Lawson Tait and Thomas Keith, and while some of our present-day surgeons ignore and sneer at these men and their teachings there is not today a man in this country who is doing successful abdominal surgery who does not follow, either consciously or unconsciously, the teachings of these two great masters.

Lord Lister gave the world antiseptics, but Lawson Tait more than any other man taught the world the value of asepsis and how to maintain it. In hernia while many new and useful methods for closure of the hernia opening have been introduced not one strictly new principle, not one iota of anatomic knowledge or one single philosophic addition has been placed before the profession in the literature of surgery since the great work of Sir Astley Cooper. Much of it was taught in the latter part of the eighteenth century by Percival Pott.

Again, while there have been development of inestimable value in recent years, yet it is a question of very grave doubt whether there has ever been any material addition to pathology since Virchow gave to the world his cellular theory, except Koch's tubercle bacillus and antitoxin. Men have been chasing germs hither and yon which constantly prove as elusive and delusive as the Will o' the Wisp.

A principle when thoroughly evolved is a fact, not a theory. Theories change, facts never. It would be better if men were taught how to study for principles in their text-books, both on medicine and surgery, and to remember that the treatment of any given

case cannot be outlined safely by any text-book for the reason that a patient must be studied. His condition of life, his environments, his habits and his necessities must be taken into consideration before a sound therapeusis can be established. Another thought worthy more than passing notice is that some years ago the authors of our text-books were all men whose work, study and opportunities rendered them authorities before they wrote text-books, while it is equally true that today many of our text-books offer the only evidence that the writer is an authority. And as to the value of text-books written some years ago by one who was before writing an authority and a text-book written today with the sole object of making the writer an authority it is not hard to choose.

ASEPSIS AS A PRINCIPLE VERSUS ANTISEPSIS AS A THEORY.

We visit fifty surgeons. One uses all the antispetic solutions of the Johns Hopkins teaching. Another relies solely upon solution of iodine, another still some other chemical, while here and there we will find one who scorns to use any chemical germicide whatever. All are getting good results. Their mortality is practically the same, with probably a slight favor to the one using nothing. Stitch abscesses are found in the practice of all, but strange to say with much greater frequency in the practice of the man who uses chemical germicides to sterilize his field of operation. Here there is probably more than one principle involved.

First, is the one that recognizes that a chemical which will destroy or inhibit septic organism will destroy or inhibit white blood cells, will destroy or devitalize epithelial cells, will convert red blood cells and fibrin into a culture medium.

Second. That traumatism whether chemical or mechanical, performs an important part in every wound infection.

Again, we hear strenuous arguments in favor of a variety of methods of wound closure, each asserting that his particular method is superior to all others in the prevention of hernias, etc. Some claiming that by certain methods it is safe, in fact far better to put patient out of bed and put a strain upon the wound in two or three or four days than to protect it until complete union has taken place. Ye gods! to think that a better and stronger union of a wound can result when during that process of union the wound is placed under increased tension, the stitches are made to whip-saw through the tissues, etc. This is theory against principle with a vengeance.

Again, a man uses all and every antiseptic method, then losing sight of traumatism makes an opening as long as the moral law, immediately inserts broad bladed metal retractors and hands to assistants to pull, push, batter and bruise the tissues, and then wonders why his patient's shock, have infection, stitch abscesses and hernias. Principle forgotten, theory run riot. Again the wound is closed in two, three or four layers (I think some people enjoy sewing) a large amount of foreign substance is left in the wound. What can we expect?

We frequently hear the layman scoff at doctors because of disagreements and caustic arguments indulged over the treatment or pathology of a given case. These criticisms can only be justified by our own weakness i.e., if we argue or haggle over non-essentials, instead of studying principles. In this lies a most important suggestion, viz.: First, the profession of surgery is fast approaching that stage when it should be an art founded upon exact science.

Second. The man whose education has not equipped him with a working knowledge of natural philosophy, embryology, pathology and physiology, together with an accurate conception of human anatomy, should not be expected or permitted to attempt to put into practice upon the living human being those principles of which he knows nothing.

It is utterly out of the pale of sound reason to expect any man who knows nothing of philosophy to apply a correct philosophy to a surgical condition. He may possibly imitate the work of another mechanically, but he cannot quickly and safely adjust his work to the needs of the individual case except he knows development, construction, pathology and the principle necessary to repair the damage.

Third. Our methods of teaching surgery must be so adjusted that each pupil shall have ample time and opportunity to study the case from every standpoint, and be taught to reason out treatment from known anatomy and recognized pathology. This cannot be in amphitheatre clinics, and it cannot come through the printed page. The large numbers of operations in an amphitheatre make a great impression upon the onlooker, very often the most difficult and hazardous piece of work looks easy, and this tempts the tyro to justify the adage: "Fools rush in where angels dare not tread." The master hand of Mayo, Ochsner, Murphy, Ferguson, Price, or any of a host that might be named makes difficulties seem trivial, but could the student follow a close range all the steps before and after as well as during the operation the delusion would soon be dis-

pelled. The individuality of a surgeon is today as ever, his greatest asset both as a teacher and as a life saver. That individuality will accomplish most for the advancement of science and the benefit to humanity when it has behind it a well-rounded and complete preparation for the careful and correct study of the science before attempting to apply the art. That individuality which loses sight of self in the intense interest aroused by the study of principles as applied to the most complex, yet most perfect mechanism known, when he can look upon the human body as a machine without fault and with life endowed, the repair of which will be best done when all Nature's methods and natural relations are understood and sought to be imitated. In order that we may fully appreciate some of the thoughts which have been presented to me in relation to this subject, it will be necessary to review and possibly criticize more or less severely some of the operations which have held the boards the past few years. One of those which has not even the slightest base in philosophy, or the faintest excuse in surgery was that which came out of Gotham a few years ago, and is known by the title "Inversion of the Appendix." The entire profession has for years grappled with intussusception as a surgical condition of grave import, as one fraught with the most serious consequences, not the least of which was the sloughing of the part intussuscepted, and yet here we are converting a normal anatomic relation into a surgically produced intussusception. That theory which would invaginate any part of the intestinal tract is certainly not founded upon principle, and when we pause to think that only a comparatively healthy appendix can be inverted the fallacy becomes more marked. There is another thing in this proposition, viz., we have for years used the rectum or colon for the purpose of feeding our patients. If food can be readily absorbed and assimilated therefrom is it not reasonable to suspect that septic organisms will likewise gain entrance from the same source? Does the most radical advocate of this procedure assume that there is not very virulent infection in and about those appendices which demand surgical treatment? Another condition in which surgical principle has been too much dominated by fanciful theory is osteomyelitis. The teaching has been and is today that we should wait until there is more or less necrosis before operating. That amputation will be necessary in a large percentage of cases, etc. The entire surgery of this subject needs rewriting. Early recognition, prompt and efficient drainage will make necrosis almost as rare as it is now common, and will entirely banish amputation. There are, then, three things which the profession should carefully consider:

1st. The study of surgery, which embraces, (a) requirements for admission to the surgical course; (b) methods of study; (c) the advisibility of a special degree or qualification.

2d. Surgical teaching. This will involve (a) special instruction in embryology, pathology and regional anatomy; (b) surgical principles demonstrated upon animals; (c) original experiments upon animals; (d) clinical instruction to small numbers not to exceed such number as will prevent each member of class seeing the minutest detail and having privilege of careful, thorough study of case both before and after operation; (e) assistant position for such a length of time as will develop familiarity with the varied conditions and best methods of meeting them.

I am almost convinced that our modern post-graduate schools are, to both profession and the laity, a curse. The courses of six weeks or three months are calculated to place the student in the position where he will sooner or later exemplify the truth of the adage: "A little knowledge is a dangerous thing." Like the normal school in the literary course, when made to refresh and keep bright the minds of those who have already had a thorough training they serve a useful purpose, but so soon as they are supposed to equip men for life work in surgery or any other specialties they are a curse. If we expect the laity to second and respect our efforts for higher medical education if we desire to stamp out quackery in every form, if we expect to accomplish real scientific work and reform we must cleanse the professional robe from every spot or stain of commercialism, we must abolish every form of gallery play; we must make our every effort to teach an honest one. Our clinics must be robbed of all spectacular and mysterious show. The amphitheatre must be razed, and on its ruins must be erected the operating-room in which truth is sought, science is worshiped and the results of permanent character secured

Micro-organisms do not live in normal histological tissues. There must first be a devitalization or death of the tissue to produce a culture medium. Hence, if we injure or traumatize tissues we are doing that which favors infection. The practice to use forceps to seize intestine, appendix, or other abdominal structures is the most frequent error in this regard. Traumatism as a prime cause of infective processes is not limited to the abdomen. There is little doubt that there can be no infection in any part of the human body without a trauma of some kind, either chemical or mechanical. If this be

true the converse is equally true, viz., when there is an injury of any kind the gates are open for infection. Metchinkoff, when he taught the world the theory of phagocytosis, and subsequently proved the theory a fact, did much to explain many hitherto unanswered questions. The great practical lesson which we ought all to have learned from it is that whenever we add to existing trauma, unnecessarily traumatize the tissues in our surgical field, we are calling upon Nature's reserved forces, and if those reserved forces have already been called into action by the disease or injury we are only favoring the slaughter of our soldiers, the phagocytic white blood cells, and this death means the formation of pus.

We have become germ-mad. Our "conscience doth make cowards of us all," aye, more, this conscience which doth prompt to use of instrument where the fingers can better serve, on the ground that the instrument can be and the fingers cannot be sterilized, makes surgical knaves of us, which crouch and cower at a fancied demon, while we hug in the arms of delusion the scorpion whose sting is death, viz., traumatism.

Again, we have theorized upon hygiene. We have measured to a nicety the exact number of cubic feet a sleeping room should have in our homes in order that those in health may remain so. We have cautioned the public against the dangers of segregation. We have looked wise and taught the horrors of infection. We have advised isolation, established quarantine, and had faith in our teachings. At the same time we have been building hospitals for the better care of those afflicted, and straightway gone contrary to our every teaching of hygiene, on isolation and on infection.

1st. We build a ward 40 x 16 feet, with a 10-foot ceiling, 6400 cubic feet, and we straightway put in eight, ten or twelve beds for afflicted humans. We argue that not less than 1000 cubic feet is necessary for a well person's sleeping room in order to maintain health, then we say by our work, that from 500 to 800 is quite enough for a sick person to regain health. Is this consistent? Then we talk about isolation preventing infection, and straightway place in this ward a case of appendicitis, one of cancer, and possibly one of absolutely aseptic operation. Is this good surgical principle, or is it subsidizing our honest scientific belief and knowledge for the commercial advantage?

Gentlemen, we must either be consistent in our own work, or we must not expect either the confidence of the public or that progress in the science of surgery which our earnest efforts should bring.

Another very suggestive thought is that many men who are the most careful observers and most accurate students refrain from giving the world the benefit of their efforts, because they feel that they have not the unlimited experience necessary to make their opinions valuable.

No greater mistake is made than that of thinking because a certain man sees a large number of cases his teaching is to be accepted as law, while the teaching of the man who sees but one-tenth as many is worthless. In entertaining such an opinion we forget to take into consideration two important factors. First, a teacher must have the ability and disposition of a close, accurate observer, the power of logical deduction and the gift of forcible expression.

Second. He must then have ample time to thoroughly study each case and fully digest and assimilate all facts to be learned from it.

Keeping these two thoughts in mind it is not hard to see that the man who sees 300 or 500 cases yearly can more thoroughly study each case and have more time to carefully arrange his knowledge in concise and accurate form than is possible with the man who sees 3000, 5000 or more cases yearly; hence if he keeps from us his thoughts, because his number of cases is smaller than another, he not only wrongs himself, but robs science of that which he owes to it. The man of vast numbers must necessarily leave the larger part of details to others and accept other conclusions. This is weakness. Our modern ideas of specialism are all right so long as they are kept in certain well-defined bounds, but when we try to make our work easy by assigning each detail to some one specially qualified in that detail, we are lessening the value of our own conclusion in regard to the subject as a whole, if indeed we are not rendering all the teaching inert. The man whose business it is to replace broken mainsprings, or any other single part of a watch, could give very little valuable instruction on the subject of watch repair and the man whose special province is pathology is of still less value, unless his study of that pathology is supported by the clinical study of the case. The man who has the time to carefully work out both sides of the case will teach the most valuable truths.

1st. Surgery is either an art founded upon exact science, or it is a gigantic fake founded upon empiricism.

2d. Every science is and must be founded upon principles which are as enduring as truth.

3d. Every principle, every truth must be preceded by theory, which is only another word for ideal.

4th. To make our theories or ideals conform to truth and exemplify a scientific proposition is to convert that theory or ideal into a fact.

5th. To sacrifice on the altar of personal vanity or ambition one jot or tittle of truth or science is to sacrifice the entire principle.

6th. Empiricism has been the foundation of quackery from the earliest days and to encourage, practice or teach any of our surgical methods empirically is to justify and father quackery.

7th. It is unreasonable, therefore, to expect that any man can put into practice a scientific principle if he knows not a thing about any of those sciences upon which surgery rests, viz., philosophy, anatomy, physiology, pathology, psychology, embryology and biology, together with those collateral branches, chemistry, histology, bacteriology and therapeutics.

8th. The human body must be viewed as a machine. Its surgical or medical repair to be based upon the idea of the province of a thorough mechanism. There is no part of the body which is not constructed on a true philosophy, and its repair requires a knowledge of natural philosophy. All other ologies and osophies are useful only in determining the need of and character of repair, hence any surgical effort not philosophic is unsurgical.

9th. Teaching of the principles upon which the treatment of a surgical case is treated should be the most attractive, as well as the most important part of our efforts.

10th. To accomplish this our methods of teaching and our practice must be consistent, and both can be revised with benefit.

11th. Traumatism should be given the consideration due its importance as a factor in infection.

12th. Fads and fancies should not command the respect of the profession, and nonessentials should not be given prominence in our teachings.

13th. Surgery should be taught as an art which rests upon exact or scientific principles, hence one in which philosophy is equally important with pathology, and anatomy of greater import than the microscope, although the latter is a necessary and satisfying adjunct.

14th. A man may be a good physician, but a poor surgeon, the converse, however, is not true, for a man cannot be a surgeon who is not a good physician, hence a special qualification might be advantageous.

15th. Hospital construction and hospital management should be consistent with the teachings of hygiene, segregation of patients, isolation of infected cases, space per bed, and all minor details to be worked out by men trained in sanitary science instead of by architects and other laymen.

16th. Endowments for the working out and proving surgical principles and honors to the workers might be worthy serious consideration.

17th. The one great principle, that a surgical condition is always surgical should be constantly emphasized to the end that "Dernier operations" may cease to be the bane of our profession and the boon of the undertaker.

The art of surgery is but the application of the principles taught by surgery as a science. It is the mechanical use of knowledge for the cure or relief of disease. The knowledge is either exact or empirical guess-work. This makes the distinction between science and theory or principle and theory. The art is a true art only if it is the result of or the application of true scientific principles. The operator may be skillful, he may be a good anatomist, and yet be a poor surgeon, for the reason that he looks upon the operation as the great part of his work, whereas the operation is and ever must be to surgery only a means to an end, the necessity for which and the plan of which must needs be the greater import than the operation itself. It is infinite detail that makes real surgical success, detail in consideration of each and every element in the case, detail in anatomy, pathology, symptomatology, clinical history, and all palpable evidence, detail in the preparation for and performance of the operation, detail in the case of the patient after operation. The art subservient to the science. The science free from all empiricism. A science which at no time can or will tolerate the interjection of commercial methods or interests. A science without personal ends or motives. Surgical principles and not surgical fads or theories. An "altruism" in practice which brings from the grave its secrets to serve and save a living but suffering being. Which touched by the fires of truth warms and illuminates the world, which delves into Nature's laws so deep and rising above the plane of self-interest can view God's work with a mind of understanding. Altruism which creates an ideal for surgery whose pedestal is Nature's interpreted law, whose body is art clothed with science's robe and whose crown is illumined by the light of reason touched by a Hand Divine.

The use of any considerable quantity of iodoformized gauze in the vagina involves the risk of a severe dermatitis of the vulva.

CLINICAL PSYCHOLOGY.*

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In all ages man has sought to solve the mysteries of his own ruling mind, but in spite of the extraordinary development of all of the physical sciences, the refinement in research, he is still in quest of the solution of the problem. While it is true, physiological psychology and psycho-physics have added their contributions, so that today the science of mind has been translated from terms of the metaphysician with its confusing verbiage;' its almost unintelligible language, to words, that signify something by defining facts; yet, mind in all that the term implies still offers a vast field for research and observation. It is, therefore, becoming to us as medical men, to delve into this almost unexplored field so far as our profession in general is concerned, that we may know mind in its growing, its maturing and its decay; that we may have adequate knowledge of its clinical value to us in the study of disease, whether it be in its relation to the body in general or to its own realms in particular.

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In entering upon this study, we become practical clinicians, because we bring psychology down from its abstract heights to an organic basis and interpret mental function in terms of physical organization, bespeaking a material basis imbued with sense experience and signifying in the concrete properties which are physical. In further evidence of this changed position of psychology, an evolutionary and practical change, we know, as Wundt has said, that mental functions form a part of the phenomena of life, enter into its cycle of production, preservation and destruction, and are governed by the same inexorable law which falls to the lot of all animate beings, whether they be mollusc or man. Wundt, in the study of the organic evolution of mental function, reminds us that we know the characteristics of mind, which are subjective, only from the contents of our own consciousness; hence, we must not begin our search for mental function among the lower types of organized nature, where its modes of expression are least perfect, but we must by working our way downwards from man to animals find the point at which mental life begins.

It is not our purpose, however, to pursue this line of inquiry, but rather to accept unquestionably all that physiological psychology has proven, and with this as a foundation feel secure in our position in accepting the belief in the physical basis of mind. James, in his masterly work on Psychology, supports this assumption in the general law which he lays down, viz., "that no mental modification ever occurs which is not accompanied or followed by a bodily change." Example after example in all of the phenomena of mind verify this statement, and it is this fact upon which we are constrained to found the term, clinical psychology, by which we mean a study of physical conditions, reactions following certain definite and well known reflexes, the reactions, the bodily change which follow mental modification according to James' law.

We must remember that, as DuBois has pointed out so clearly, that the brain itself, the King of our organs which imperiously commands, is a passive organ because its cells upon which its activity depends, do not in themselves act, but react. The cerebral cell has no more spontaneity than the muscular fibre and it reacts only under stimuli of secret impulsions of organic sensations, or of stimuli which are received by our sense organs, those fine antennae which bring us into relation with the outside world. The peripheral stimulus must strike the extremity of the end organs of our sensory nerves, by means of which there are successive transmission into the realm of mind and a reflex is there created, either sensory or motor, or higher psychical cell. It is this study which DuBois says is physiology in its essence, is today when applied, one of the most promising field of clinical inquiry. Unfortunately,

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physicians in general have been frightened by the term psychology, and have little conception of its usefulness when understood and intelligently applied. To me, this applied psychology is and can always be made useful in clinical medicine and surgery. Every physician consciously or subconsciously is, and may be more so, a living potential of its subtle usefulness, and it is just as important that we discuss this feature as it is to discuss the technique of some surgical operation or some clinical problem in internal medicine; for it is true, "whether he wants to or not, the physician ought to be a psychologist, and in practice he will often see that his knowledge of the human heart is more useful than his ability in questions of normal or pathological physiology."

We have a right to use every means that, when ethically and intelligently applied, give peace, comfort, relief and cure to our patients, and we ought not only know how and when to approach psychological problems, but to know the real genuineness, precision and effectiveness of the methods when applied.

We owe to Herbert Spencer the masterly and profound exposition of the origin and nature of the normal mind; his classical, synthetical psychology has laid the foundation upon which has been built all of the practical work in psychology, both normal and morbid. To Drs. Hughlings Jackson, Charcot, Richet, Charles Mercier, Pierre Janet, Wilhelm Wundt, Henry Maudsley, James J. Putnam, Paul DuBois, Kraeplin, Bianchi and other physicians, we owe the adoption of these principles of psychology to practical clinical medicine.

Unfortunately, medical men have not received in their college curriculum very much instruction regarding the normal mind as taught in psychology, and only within recent years have they received very much information regarding the abnormal mental states, as a result, the mind in disease is an unexplored wilderness to the average physician. I personally feel no apology is necessary for occupying this time in discussing what many physicians regard as a useless waste of time and a pernicious imposition on good nature when one speaks of psychology. It is important that medical men know at least the principles of psychology in order to formulate adequate knowledge of the abnormal states of mind. Obviously, therefore, in order to know the abnormal in its fullest and most comprehensive delineation, we must have a working knowledge of the normal mind in its relationship to the body. This field in recent years has been investigated thoroughly by laboratory, pathological and clinical methods, and in consequence, mind now as investigated by modern methods is considered in correlated study with the nervous system. As evidence of the value of these correlated studies we have the masterly work on the "Psychology of Adolescence" by G. Stanley Hall.

Mercier says there is a large amount of writing about the mind and about the connection of the mind with the body, which is, strictly speaking, nonsense, and in using the word nonsense he does not use the word as a term of vague abuse, but in its strictest logical meaning to denote language which is unintelligible and meaningless, language which is neither true nor false, but is purely nonsense and is such because of the lack of recognition of the fact that a change of consciousness never takes place without a change in the nervous system, in the brain, and the change in the brain never takes place under the same conditions without the change in consciousness. This is in accordance with the law laid down by James. Now, why the two occur together or what the link is which connects them we do not know, and most authorities believe that we never shall and never can know.

In view then of what has been said, let us follow Mercier in his practical statement of the facts we have to study in order to know of the nervous system in its relationship to the mind. We must first know of consciousness, and it is self-evident that there is only one way of knowing of the facts of consciousness, and that is by observing the operations the states and the sequences of one's own mind. This introspective method is a careful and systematic study of facts that everybody notices in a more or less superficial and perfunctory manner.

Further, it is evident that this method can only be pursued by investigation upon one's own consciousness. One cannot feel the emotions nor reflect the ideas of other peoples mind; one knows and draws by inference that other people have consciousness like one's self, but one can never directly observe them. Psychology takes all of this for granted, and in further evidence of the correctness of this assumption it has adopted methods of scientific observation to prove it.

Speculative philosophy in investigating consciousness has no place in the modern, or what is called the "new psychology," wherein experimental methods have proven a source of valuable knowledge. Direct contributions to modern psychology in the study of consciousness have been made through physics, which, as Helmholtz has shown, is theoretically at least the co-ordinate science of psychology. Physics is the

fundamental science of nature, psychology that of mind, and from physics psychology has received invaluable aid and protection.

Again, physiological psychology has been a valuable aid in overcoming the dissatisfaction growing out of introspective psychology and as a result, the vigorous works like those of Maudsley, G. Stanley Hall and Mercier have brought about closer relations between academic psychology and pathology. Carpenter has in his mental physiology reinforced the work of Spencer, and later works have shown the physiology of the nervous system in its help in solving the problems of psychology.

Morat, in his recent and very valuable work on the "Physiology of the Nervous System," has this to say relative to the relationship of physiology and psychology—"The study of physiology gives rise to, or at any rate borders on, problems which are not in any way its special province; and, for the rest demands from psychology solutions which the latter seeks for with the aid of its own methods. A kind of mental area, common to both sciences, exists which the former endeavoring to appropriate by pushing farther back the boundaries separating it from the latter. With the combined methods of the study of psychology, it is evident that our area of observation has been greatly enlarged, and we can now include the conscious minds of others, and even in comparative psychology, the study of the minds of all animate beings from man downwards to where reason begins. Yet, in spite of all, the minds of others cannot be known directly and can only be inferred from their conduct, which is their outward expression and the criterion of mental soundness or unsoundness. Hence, the study of conduct becomes a very necessary integral part of the science of psychology.

The physiological unit, says Mercier, is a nervous process which when transmitted to muscles issues in a movement and is accompanied by a mental state. Raise this unit to the highest power and we find our subject falls into three natural divisions: the study of Nervous Processes; the study of Conduct and the study of Mind as regards its constitution, and these united studies give us clinical psychology, from which we draw conclusions in deciding upon the presence or absence of disease.

Nervous Processes.—The study of the nervous processes involves the study of the anatomy and physiology of the nervous system This opens up the study of the primal functions of the nervous system and their relationship to mental activity. We know that, as I have before said, the cell itself does not act, but reacts to stimuli, and the absence of all stimuli would mean physiological death. In order for the body to act after receiving the necessary stimuli, there must be redistribution of force, and this is the prime function of the mechanism of the nervous system. Its perversions are noted in the varied palsies, the cerebro-spinal and peripheral neuronic degeneration; the special sense disorders, blindness, deafness, etc.; the varied sensory disorders, and in fact, disorders of the nervous system in general; all of which, according to their degree and combination, create a symptom complex, indicative clinically of the lesion, and when properly interpreted become a part of clinical diagnosis. It is by detailed study of these processes that we learn of their value in clinical psychology, for every lesion of the nervous system, directly or indirectly, has its effect on the mental activity of the individual; some mental accompaniment; its effect upon consciousness. Consciousness is composed not only of feelings and thoughts referring to the outside world, but beneath these there is a vast body of other feelings and other thoughts referring to what is going on in the interior of our organism. It is this knowledge which becomes of clinical value in studying the etiology and nature of hallucinations and the evolution of delusions.

Conduct.—Now as to conduct. "What we know of the interior of other peoples consciousness, says Mercier, we know only by inferences, by judging from their actions what the condition of their consciousness is likely to be; supposing the actions are in them accompanied by states of consciousness similar to those which in us accompany our own." This is an uncertain inference, and we can best know and judge of conduct of an individual by comparing his condition at the time of our study with some period remote in our endeavor to determine the measure of conduct. Conduct is the criterion of mental unsoundness, but not all, for there is much beside disorder of mind in insanity as there are other nervous and bodily changes which are to be taken into account. "It is a fact, however, that when there is disorder of mind, there is disorder of the nervous processes and of those processes which have a mental accompaniment, that is to say, of those which are highest. But, the highest are those which regulate the movements of the body with respect to the circumstances in the outside world; in fact, those which actuate conduct. Hence, "when the highest nervous processes are disordered, not only must mind be disordered, but conduct must be disordered also." We could proceed to

analyze conduct, differentiate the adjustments of the individual as to orientation, purposive movements, intelligent conceptions in immediate adjustment, etc.; all showing the individual at variance with his environment when mental disorder exists, but time will not permit. I have said sufficient, however, to show that conduct in its disorder of adjustment is of clinical value in the psychological study of an individual. Further, conduct is the product of education of innate character; of environment; of experience; of fate; of fortune and of numerous other conditions, and must be studied in its relationship to all of these modifying influences, each of which has its clinical value.

Mind in its Constitution.—We have reviewed many of the clinical essentials in our study of the mind, but there yet remains the very important, fundamentally so, study of mind in its constitution, which analysis contributes much valuable clinical information, and enables us to give the true value to the diseased personality, showing in what way the normal mental life is disturbed and forecasting its future, and suggesting its treatment. Paton aptly says, "we are awakening to an appreciation of the fact that the same general methods of investigation that are applicable to the study of all biological sciences may be successfully adopted in attacking the problems connected with mental diseases." Further, he says, "instead of contenting himself (the clinician) with a native psychology founded upon theory and speculation, he has been taught to rely upon the basis of steady, painstaking observation, substantiating his results whenever possible by experiment. . . . The relation of body and mind is still an enticing theme for the philosopher, but to spend valuable time in theorizing as to the manner in which the ultimate solution of this problem will be effected belongs only to those who live in a realm that is far afield from the path of the clinician."

The advancement in clinical psychology is especially noted today in the refinement of diagnosis in mental diseases, in the methods employed by Wernicke, Ziehen, Kraeplin, Meyer, Janet and others. Wernicke, recognizing the fertile field awaiting clinical investigation along psychological lines, has attempted to analyze accurately the individual symptoms in different diseases, in the hope that some additional clue may ultimately be obtained as to the etiology and genesis of a given disorder. This method is practical, and has the promise of being of great service in formulating the real scientific basis for the now illusive problems of mental disorders.

Paton says, "that no better exemplification of the good that may be accomplished by these refined methods of analysis can be brought forward than by a reference to the studies made in connection with the various paraonic states. In the light of recent investigation, we no longer speak of primary intellectual defects, as if the intellect were an isolated faculty, inasmuch as careful observation has shown that the majority can be traced to primary changes in organic sensations, anamolous, emotional states and disturbances in the complex of sensations designated collectively in the personality." He also speaks of Bonhoffer's study of alcoholic psychoses, whereby painstaking analytical methods and the character of the reactions obtained, it is possible that a clue may be obtained showing how these poisons act. Kraeplin has advanced analytical methods of study by means of which certain groups, diseased entities, so to speak, are given full clinical consideration, and the disease as a whole is studied and not merely isolated conditions. Kraeplin's attitude, according to Paton, is that of an observer who says it is essential to success that every factor connected with the problem in question should be taken into consideration and given its due valuation. Kraeplin's synthetic methods are shown in his groupings as found in the symptoms portrayed in what he terms maniac-depressive insanity and dementia praecox. Other observers in following similiar methods of analytical study, all working along psychological lines, are emphasizing the scientific value of exact and precise observation, showing the advantages of bedside, individual study of cases.

To perfect this method of study, observers must study the anomalies of sensation, of perception, of memory, of thought, of feeling (the emotions, the phobias, fears, the disturbances of consciousness, lucidity, confusion, incoherence, stupor), then disorders of the will, for it is clear, as Chaddock says, "that the fundamental elements of insanity are disorders of the emotions and the intellect, and that so-called disorders of the "will" are merely expressions of one or both of the former. The anomalies of volition (of will) and of conduct complete our analysis, but it must be remembered that in testing the mental state, the psychological tests may not yield the results anticipated because of the intellectual change in the patient, but the absence of these tests (the negative results) because of intellectual defect, will in itself aid in the diagnosis. It is also important to remember in analytical work, that we not only note positive results of our examination,

but the negative as well. In fact, we know in mental disease, this is of the utmost importance, because we can frequently determine what disease the patient has by finding out what he has not. A diagnosis is then made by exclusion, one of the most scientific and refined methods of diagnosis.

Another promising field for the psychological methods of study of the mind in disorder is that found in the borderline mental states, the hysteric, the neurasthenic and that newer classification, psychasthesia by Janet, which includes neurasthenia and that great mid class of cases between epilepsy on the one side and hysteria on the other. Janet in his clinical studies, according to Blumer, under the name of psychasthenia: (1) the simple neurasthenia with physical and moral depression, but without any accompanying sense of disease; (2) the patient who feels acutely and suffers from his state of depression, but shows a tendency to exaggerate and to generalize; (3) one who has crises of agitation and anguish; (4) one who exhibits tics, phobias or mental mania; (5) one who summarizes all preceding disorders in obsessional ideas of shame, crime, sacrilege, expressed continuously or by crises. He further classes psychasthesia under three divisions according to symptoms: (1) the motor; (2) the effective; (3) the intellectual fields. Janet again says, "the representations in consciousness in the psychasthenic are endogenous, and relate to persons or objects in the patient's environment, thus distingishing from hysteria the representations in consciousness are exogenous in origin, the result of suggestion or emotional disturbances."

The chief episodic syndromea of psychasthenia mentioned by Paton are hypochondrical obsessions, which tend to make the individual self-centered and abnormally sensitive in regard to physical ailments. Sometimes, their attention is centered upon certain organs, as in a case I have now under my care, a bright, intellectual, prosperous business man, whose whole attention is centered upon his liver, and in spite of assurances, physical demonstrations, etc., tenaciously adheres to his hypochondrical ideas regarding his liver. Innumerable complaints along this line could be cited, but they are familiar to you all; the man who is afraid of cancer; the woman with diseased ovaries; the man or woman with diseased heart; the youth with lost manhood; the anemic girl with fear of consumption, etc. All of these individuals have in common excessive shyness, anxiety, fears, embarrassments, and further, in their environment and social relations, have an ill at ease feeling with strangers for fear of doing or saying the wrong thing; and consequently, prefer to live alone or in retirement from society.

Then, we have the patients with imperative ideas, with the mental, motor and emotional peculiarities. A large and interesting class because most of them are intellectual and are capable of reasoning and debating about their condition. The sleep vigils, the forced reveries, the insistent desire to write about themselves, the innumerable questions always ready, sometimes in writing, to be asked the physician, and a hundred other mental anomalies. Again, we meet them in the overzealous housewife, whose orderliness goes to the extreme; these good women who exhaust themselves and the family as well, in their emaculate housekeeping. You all know or have heard of such individuals. "Rest is impossible if a book or any object is out of its proper place, and the mania for preservation of order is particularly noticeable in young mothers who cannot bear to see their children's clothing disarranged or their hands or face dirty." It would be a revelation, doubtless, to these good women to tell them they were considered as anomalous creatures; and yet, the imparting of such information would not be heeded. No! the exhaustion is apt to go on just the same and a semi-invalidism be their lot through life. I am sure we who deal with nervous patients meet them almost daily in our consulting-room.

We could go on and mention the tics, the anomalies of motion, as described by Charcot, the fears classified by Janet into four classes: (1) fears relating to the body and determined by anomalies of sense perception; (2) those relating to objects outside of the body; (3) those of situation which are not determined merely by the perceptions of single objects, but rather by a combination of circumstances; (4) the fears pertaining to various ideas. All of these fears, obsessions and impulses growing out of them are apt to move in cycles like all other phenomena dependent upon the nervous system, and as a result, we note crises accompanied with emotional storms, and frequently dominating the patient for days. Many, many of these patients find their way to the insane hospitals who really are more fit subjects for the psychopathic ward of a general hospital, and should by all means have their first detention at least in such institutions. These cases terminate in one of the following ways, depending upon the care and intelligence used in treatment: (1) They may get well, remain cured under proper environment and care; (2) the disorder may reach a certain mental level, the degree of which may be greater or less in each case, wherein the patient may live a comparative useful life and a life of

ease, and yet be a victim of its distresses; (3) the state may become chronic in a hypochondrical form and last always; (4) it may become chronic in a form of anxious anticipation with episodic outbreaks of variable duration.

Then, again, we have a class of cases not so far advanced in their mental symptoms, as noted under psychoasthesia, a class, a large one too, which we are apt to call simply nervousness, which Zbinden has analyzed clinically in a paper entitled "A Psychological Conception of Nervousness" (Review of Neurology, May, 1906, Abstract). It is a condition characterized by primary symptoms of which fatigue, anxiety, emotionalism, irritability, and above all, auto-suggestibility is the chief; and, by secondary symptoms, such as insomnia, palpitation, dyspepsia, etc. The causes, he discusses under hereditary, predisposing (education) and determining fatigue, worry, disappointment. This is that large class of cases which are so prominent in the class which DuBois and Dana calls the psycho-neuroses, and which are far-reaching and involve questions of family, social and political life and require almost superhuman effort to meet in all of their details. Zbinden believes, however, that their remedy is in education, as he says, men become nervous because they do not think rightly, and the neurotic does not know how to live. To preserve our equilibrium, one must learn how to think and how to live, and if this were inculcated from early childhood, nervousness in time would disappear. It is evident right here that there are sociologic and economic questions involved in our clinical psychology, but of these we can only hint as we discuss in our treatment what are we going to do about it.

If time would permit, I would like to discuss genetic psychology with you, showing mind in its formation; the psychology of adolescence; of maturity; of decline or the senescence of life, but our subject is too broad, and time is too short to depart into these interesting, productive and valuable by-paths.

Before leaving this phase of our subject, though, let me mention another clinical class of cases, little understood by the average physician, and too frequently ignored, but which if taken early in hand studied by psychological methods and treated from the basis of a mental malady, will yield genuine results. I allude to hysteria. Charcot, we know, did more to bring about the true status of hysteria, defined its psycho-pathology, than any other clinician, but it remained for his pupil Janet, as Charcot himself has said, to unite the medical and philosophical studies of this disorder in the true effort to analyze clinically the mental state of a patient. Janet's classical studies have been published in his work, "The Mental State of Hystericals" and from which I select a few excerpts in presenting this very interesting subject.

Janet says: "The method of observation plays the principal part in his researches; it is the clinical method applied to diseases of the mind. In carrying out this method, he emphasizes the importance of knowing well the patient, his life, his education, his disposition, his ideas, and that we shoud be convinced that we can never know him enough. We must then place the patient in simple and well-determined circumstances and note exactly and on the spur of the moment what he will do and say. To examine his acts and words is as yet the best means of knowing men, and we find it neither useless nor wearisome to write down the wandering speeches of a lunatic. The words, the writing of patients, are instructive documents, the graphics of pathological psychology; of course they have to be interpreted, but we must never forget or transform them. Just here, let me say, that I would urge you to have your patients write you regarding themselves, also ask their friends to save their correspondence for your perusal, and never ignore a letter or any document that may come from a patient whom you are studying psychologically. Patients will write thoughts, detail their acts and otherwise express the workings of their mind.

The psychological analysis of a case requires says Janet: (1) The analysis of the stigmata; (2) examination of the mental accidents of hysteria. It is the psychological disturbance which accompanies the accidents that requires too careful analysis and study. The analysis of the moral phenomena will enable the differentiation to be made between all other mental maladies and hysteria. Mental maladies are not to be confounded with each other. If the hysterical patient presents in her various accidents, mental disturbances, it would not be characterizing her correctly to call her insane. She is not insane, at least, in the usual acception of the word. The diagnosis of her case would be difficult, no doubt, and would require a psychological analysis of the different forms of insanity. Janet in his clinical analysis is contributing to the solution of the problem as to what place hysteria should occupy in the classification of hysteria, and in his studies he has eliminated a class of cases which he designates psychasthenia, which by some were regarded as neurasthenic, others as hysterical, but which he shows are midway between epilepsy and hysteria. His work is classic and comparable to that of his distinguished master, Charcot.

We cannot take time to recite his methods of psychological analysis, but will quote from his resume some of the leading deductions he makes from his study of the mental state of hystericals. After speaking of the provocative agents, which weaken the organism and increase the depression of the nervous system, he speaks of the critical age in which hysteria is apt to appear, that of puberty. He says not the age of physical puberty which, however, has a great influence, but of a state which comes a little later, and which might gently be called moral puberty. It is an age when all of the greater problems of life present themselves simultaneously; the choice of a career and the anxiety about making a living; all of the problems of love and for some religious problems. These are preoccupations which invade the minds of young people and completely absorb their power of thought. These thousand influences manifest a psychological insufficiency which remains latent during the less difficult periods. At this time, it is sufficient to develop symptoms which we call hysteria.

Janet gives a very thorough and exhaustive definition of hysteria, the result of his psychological analysis, in the following words: "Hysteria is a mental disease belonging to the large group of diseases due to weakness, to cerebral exhaustion; it has only rather vague physical symptoms consisting especially in a general diminution of nutrition; it is above all characterized by moral symptoms, the principal one being a weakening of the faculty of psychological synthesis, an abulia, a contraction of the field of consciousness manifesting itself in a particular way; a certain number of elementary phenomena, sensations and images, cease to be perceived and appear suppressed by the personal perception; the result is a tendency to complete and permanent division of the personality, to the formation of several groups independent of each other; these systems of psychological factors alternate some in the wake of others or co-exist, this lack of synthesis favors the formation of certain parestic ideas which develop completely and in isolation under the shelter of the control, the personal consciousness, and which manifest themselves by the most varied disturbances, apparently only physical. He gives a brief definition of hysteria by saying, it is a form of mental disintegration, characterized by a tendency toward the permanent and complete undoubling of the personality.

I could go farther in the psychological studies of epilepsy and disease, the disorders of the sub-conscious self, all of which is of clinical importance, indeed, of great importance, for it enters upon the study of human personality. Time will not permit this excursion, however, and I have doubtless lead you far enough into the field of abnormal mind, the distempers, as Shakespeare would call them, it seems well in closing to intimate some way out of this labyrinth. In discussing the ways and means, we must unavoidably touch upon some of the most vital, social factors in race, family and individual, disorganization so far as the mind is concerned. Factors which show the need and urge the importance of rules of wisdom and virtue to be formulated and observed to strengthen the health, to heighten the intellect, to refine the morals of mankind.

It is of first importance to note that clinical psychology in its analytical study does not consider heredity with the same degree of insistence as that advocated by Morel, but has, according to Adolf Meyer, in his "Review of the Recent Problems of Psychiatry," shows how its influence largely pointing to the necessity of a future study of constitution and caution, in questions of etiology, generally inasmuch as they show the need of considering a special predisposition besides the exacting cause. The views of heredity are becoming better understood, and as time goes on the work of DeVries of Copenhagen, and other observers will be merged into our psycho-pathology and we will learn of the coefficients, intrinsic and extrinsic value. We now only know and must content ourselves with that knowledge "that no matter what the anomaly or deviation from the anthropathological and functional type of the individual or family with respect to the historical moment of existence of a society, a race, it may be the first link of a chain to which others and still others may be added in the descendants, with various changes up to the gravest forms of nervous and mental affections, and to the extinction of the family."

Environment and education afford the greatest value in our consideration of therapeutic problems, for inasmuch as they are factors in etiology, they may and will when properly controlled, become our best means in the solution of our psychological problems. Zbinden insists that the treatment of nervousness is an educational problem, and we know that the treatment of a neurasthenic is an educational problem, including proper instruction in personal hygiene as a remedial measure for future protection as well as for immediate necessities. In my very varied experience covering almost every phase of mental anomaly, from the mild to the profound, I am sure that I am right when I say that every case is a problem in nutrition, somewhere along the line, and it is only by proper environment, good nutrition and education

that we can ever expect to check the invasion of nervous and mental disorders. Clinical psychology has shown in the neuropathic class (that product of heredity, plus faulty living and lack of character education) that there is much that can be done by individual study of each case.

Perhaps, the personality of the physician is a factor of greater importance in developing the so-called moral treatment, the character development of the patient, than any other therapeutic agency, excepting, of course, the nurse who shares the responsibility and executes in her own tactful and trained ways the orders of the physician. We know that moral education precedes mastership in every act, because the training which mastery involves reacts upon character, gives it steadiness and solidity. In our profession, when we are confronted with the problems, essentially psychological in our patients, growing out of their wanton, careless and irresponsible ways of living, we are forcibly reminded that it is indeed in a good moral education that the surest prophylaxis of nervous exhaustion is found.

Again, it is by taking advantage of the opportunities presented while the patient is under our care, to inculcate principles of right living, which may become an integral part of the individual's character, so that in addition to the physical advantages to be gained in following the technique of treatment, whatever it may be, especially the rest treatment, we develop a broader, more comprehensive view of life itself for the patient, and that there may grow out of their experience while under our care, a vital relationship of the personality with all that is deepest in human nature. We must remember that these patients live imbued with auto-suggestions which they have created themselves and to lead them away from these suggestive influences requires an earnest endeavor on the part of the patient encouraged and lead by a thoughtful and resourceful physician. It is necessary for the physician to individually study his patient, and by the analytical psychological method, so that he may know his mentality and lead him by the clearness of his instructions to correct ways of seeing, believing and doing, and thus be delivered from the thralldom of his mental representations. Unfortunately, there are physicians who have so little knowledge of the mentality of nervous people, who have so little real working sympathy that is constructive, in helping their patients, that they are more apt to do more harm than good in the task of the gradual destruction of the agglomeration of fears, theories, etc., of the patient.

Thus is the field of psycho-therapy so ably presented by DuBois in his very helpful book, "The Psychic Treatment of Nervous Diseases," of which Dejerine says is the work of a physician as well as a psychologist. In no place in our therapeutic art do we find a call for the very highest application of educational means and methods than in the treatment of nervous disorders as found in the psychoneuroses which form such a large part of the nervous class of patients. It is an appeal to the education of self, both in the patient and in the physician in order to lead the patient. It is the influence of the mind over the body, of character, moral development against the evils which torment the nervous invalid. Educational methods alone will not give the results is my own experience, and I have faithfully, honestly and consistently endeavored in my own work to live up to the educational ideals inspired by S. Weir Mitchell and other workers in this field. I have found, as you have all found, that fatigue, bodily, intellectual and emotional, are factors with their attending physical depression, which must first be intelligently met and overcome before we can hope to create optimism, hope and encouragement; it is by systematically treating fatigue in its varied forms, building up with good fat and blood that we lay the foundation for good mental results. Then, at the same time create that rational, helpful desire, by true sincere interest in your patient, which will remove the tempest of emotional feeling, create new ideals in character, unfolding and inspiring confidence in their own moral personality. Then, as DuBois says in his recent very happy and helpful little work designed for the layman: "This work of self-education is less difficult than one would think . . Often in some days, almost always in some weeks, they (the patients) succeed in altering the point of view, in seeing things from another angle. In proportion as they recover their mental calm under the empire of healthy reflection functional troubles disappear, sleep returns, the appetite rises, the body becomes stronger and the success of this mental treatment demonstrates the supremacy of mind over the body. It is in this self-education that the sick should find a cure and well people will find a preservation against nervous diseases. They should begin in little things, in the good habit of overlooking trifles and going bravely forward without troubling too much about their own case.

I believe in the educational growth of character, both in the patient and the physician and this involves discipline, self-denial, self' sacrifice, but it is the reward which the law o

excellence demands of us if we are to succeed in our work. I hold that in clinical psychology, in the synthetic analysis of character, which plays such an important role in the success or failure of results achieved in treatment, "we find that a man must give his character firmness and fibre before he can make his talent effective or fruitful." The connection between sane living and sound work is a physiological and psychological necessity, and if I can leave just that one thought with you, you have the key to the manifold problems of clinical psychology.

ALVARENGA PRIZE.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga prize, being the income of one year of the bequest of the late Senor Alvarenga and amounting to about $180, will be made on July 4, 1907, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in Medicine, but cannot have been published. They must be typewritten and must be received by the secretary of the college, Dr. Thomas R. Neilson, on or before May 1, 1907. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelop having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possesssion of the college; other essay will be returned upon application within three months after the award.

MEDICAL ASSOCIATION OF THE SOUTHWEST.—Under the most favorable auspices, and with marked enthusiasm, this new society was launched at Oklahoma City, on October 30th. The Tri-State Society of Oklahoma, Texas and Arkansas was merged with the new organization, thus removing a competitor from the field, and insuring an open field for the new society, which gives promise of a most successful career. An excellent scientific program, divided into three sections, occupied two days, and afforded the two hundred delegates in attendance an opportunity to judge the caliber of the men comprising the brain and brawn of the great Southwest. The election of officers resulted in the choice of Dr. Chas. M. Rosser, of Dallas, Texas, for president, and Dr. Fred. H. Clark, of El Reno, who has been active in preliminary work of organization, as secretary-treasurer. The next meeting will be held at Hot Springs, Ark., in the fall of 1907.

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EDITORIAL

Prescribe the National Formulary Preparations.

A MEETING of the Medical Society of City Hospital, hsld in this city on October 18, 1906, will certainly be epoch-making in the way of a change in the way of prescribing on the part of the local profession. On that date, the medical men and the pharmacists met together and listened to a number of papers by prominent pharmacists relating to the history, plan and scope of the U. S. Pharamacopeia and the National Formulary, a commentary thereon. Prof. Hemm, of the St. Louis College of Pharmacy, gave a most interesting account of the new preparations according to the third revision of the National Formulary. He showed an elegant line of elixirs and syrups, emulsion and solutions, palatable and agreeable yet withal potent; moreover, the individual pharmacist's guarantee of stability of composition goes with these preparations. They insisted that the widespread use of proprietary preparations, some of which are decidedly fraudulent, is gradually depriving the educated pharmacist of his living and of his knowledge. It was claimed that there is a "dis-use atrophy" of the functions of the pharmacist relating to the compounding of scientific prescriptions, that the modern pharmacist is compelled by the wholesale prescribing of patented articles on the part of the physician to simply pour medicines from one large bottle to another smaller one, label and hand over the counter.

The medical man listened with attention and "promised to be good," promised to sin no more, promised to always prescribe the preparations of the National Formulary and that too, by their Latin names, as requested

by Prof. Hemm. The writer straightway began the following day's prescription writing by jotting down a formula calling for "elixir digestivum compositum," which, ahem, all of us recognize as an orthodox National Formulary preparation. Within a few hours the telephone tinkled merrily and a voice purporting to issue from the sanctum sanctorum of a prominent down-town drug-store naively asked, "doctor, we have here one of your prescriptions calling for 'elixir digestivum compositum.' Will you kindly tell us what house makes this proprietary?" Needless to say, this question was answered with a sharp admonition to read the National Formulary and learn "which house makes this preparation."

The above experience shows conclusively that this reform needs the conjoined action of both the pharmacal and the medical professions; that perhaps the pharmacists should call a meeting (and we understand from Prof. Hemm that such a meeting will shortly be called) and that every druggist and drug-clerk as well as every physician should buy a copy of the National Formulary and *study it diligently.*

It was said at the meeting alluded to above that perhaps the medical student does not receive enough instruction in prescription-writing. It is barely possible that perhaps the pharmacists in the past have not been well drilled in their learning of the official preparations of the U. S. Pharmacopeia and the National Formulary. Or, does the average drug-clerk fail to recognize the official preparations on a prescription blank because of the "dis-use atrophy" brought on by excessive reading of proprietary prescriptions written by doctors with "proprietarietis hypertrophica (apologies to Mr. Dooley)."

R. B. H. G.

Sleeplessness.

THE balance between fatigue and rest is one of the most wonderful of provisions in the scheme for the continuance of animal life, to be healthily fatigued and to sleep—can anything more beneficent be imagined? The average busy man unthinkingly regrets that he must spend so much of his valuable time sleeping, and it is only when this privilege is denied him that he comes to properly appreciate the worth to him of the hours he has spent sleeping, for to be fatigued and be unable to sleep is hell; to be surrounded by all that should be conducive to rest, to be properly wearied and ready for sleep and to be unable to lose yourself to it is an experience which can be explained to no one, it has to be undergone. You are not going to be so foolish as to employ hypnotics and you first undertake to subdue yourself by the employment of some of the forms of light gymnastics which have been highly recommended, you discard your pillow and later get two, you count, you read dull books, you try various unnatural and uncomfortable postures and still the nights pass without giving you more than a hint of the sleep which has been your due. By the end of a week you are ready to use almost any somnifacient and you have awakened in you a most wonderful admiration for the sleeping sickness and a sympathy for anyone who has ever been deprived of sleep. If you have not already too far abused your nerves you presently find yourself sleeping again and the wonder of it is indelibly impressed on you for it comes without explaining the why of its coming, but you know that it came just in time and that had things been but slightly different the future would have been black indeed. You resolve to treat your body with due deference from this on and perhaps you do do it.

There is no joke in this sleeplessness business. It is a condition which is especially liable to be found in the medical camp and it is worthy of serious contemplation, it is a condition which should be anticipated and hindered. When you find the man who has once experienced a season of it you will find one who will tell you that there is no physical suffering in the same class. Most of the therapy directed against it is irrational for it is directed against the effect instead of the cause and while it is necessary to give rest, even though temporary, and without regard for the cause still the reason must be found and overcome. This not infrequently means an absolute change in the manner of life, and almost invariably in our cities it means at least a considerable increase in time spent out of doors and in play, these sleepless people have usually forgotten how to play and they simply have to learn again. We have gotten a mighty distance from nature these days and we know little of good old Mother Earth and the smell and feel of her soil and we are having to pay penalties, that's what these people who cannot sleep are doing and it seems that their salvation lies in discovering their need before it is too late.

THE local health physicians have lately completed their annual vaccination campaign. There has been less objection to vaccination this year than usual, and while it has been nicely effective there have been few bad arms.

To Assemble the Literature of the Local Profession.

A MOVEMENT to assemble and make accessible the writings of members of the St. Louis profession has been inaugurated by President Homan of the St. Louis Medical Society and is worthy of the co-operation of all who have written on medical or other scientific subjects. Dr. Homan issued the following call to members of the St. Louis Medical Society:

While the maintenance of interest in the current scientific work of a medical body is of prime importance and cannot safely be neglected for a day, the collection and preservation of the records of past or of this kind by out members is also a function peculiarly appropriate to a body such as this one is, and which undertaking, if found workable, cannot but redound to the credit of this society and prove an additional stimulus to scientific effort.

It has occurred to me therefore, that a valuable and interesting—if not unique—departure could be made in beginning the formation of a collection of reprints—that is each member who contributes papers on scientific subjects for publication, would be requested to donate to the society a complete set of such reprints, or as nearly so as possible—a memorandum being inserted to show the date and place of publication of the papers that are not included in the collection—and this collection to be preserved by the society and held conveniently accessible to the entire membership.

Comparatively few of our members have access to a medical library, and one advantage of the proposed plan would be the ease of consulting a production on any specific subject of which the seeker had heard or of which his own copy was lost, particularly those topics that are treated of by the various specialties—as the eye, ear, lungs, heart, etc.

No time would be lost in searching through files of medical journals, and this advantage would appear more distinctly as such a collection grew in volume and value.

There is in this suggestion also an appeal to the natural pride of authorship, which should stimulate interest in the undertaking, while the cost involved would be inconsiderable, as self-binders of suitable size can be had at wholesale for fifty cents each, while an appropriate case for safe-keeping need not be of an expensive character.

Later, if the project should be well received by the members, its scope could be enlarged, and all prominent medical writers could be invited to make contributions in kind to the suggested special library or collection.

The Female Hospital.

THE consolidation of the Female and City Hospitals is being discussed by the daily press, and it seems worth pulling for. Conditions have greatly changed during recent years, and there is not the reason for a separate institution for females which once existed. The Female Hospital has become a lying-in institution, and is doing a work which does not justify so large a force as is necessary to its administration as now conducted; its buildings are dilapidated and must be renewed. Wisdom would point to rebuilding as one of the City Hospital group and conducting both institutions under a single administration and with the one office force.

Dr. Sylvester Nidelet.

THE death of Dr. Sylvester L. Nidelet on October 30th has removed another of the older and more picturesque medical characters of St. Louis. Dr. Nidelet was born in Philadelphia 77 years ago, his parents were St. Louis people, and he always considered himself a St. Louisan by birth.

He graduated in medicine here and went to Texas. There he entered the army as a surgeon, and during the years spent on the frontier in that capacity, became well acquainted with the Indians, and learned several of their tongues.

When the civil war began he enteered the Confederate service with Gen. Price, and later became chief surgeon of the department of the Gulf under Gen. Lee. He was wounded at the capture of Mobile. The year after the war, he was sent for by Gen. Sherman because of his knowledge of the Indians and again became a surgeon in the United States army. He was stationed for five years at the Whetstone Indian reservation.

Later, he resigned his commission at the request of his brother, Dr. James C. Nidelet, and has practised in St. Louis since, except for two intervals. For one year he was Indian agent to the Sioux and he disappeared for several years, during which time he was in the Orient.

Dr. Nidelet was elected coroner in 1882 and served two years. It was during this time that the dead body of Preller was found in a trunk at the Southern Hotel, and it is due to the persistence of Coroner Nidelet, and Dr. J. C. Nidelet, who assisted his brother, that Maxwell was finally captured and convicted of a cold-blooded murder.

Dr. Nidelet was unmarried, and is survived by his sister, Mrs. Charles E. Michel, and his brothers, Jas. C. and Frank.

The Frisco Railroad Hospital.

AN informal reception was given at the new Frisco Hospital in this city, on October 20th, that institution being thrown open to medical and other friends for their inspection. The building is beautifully constructed and is a model of hospital architecture, embracing so much of that which is best in modern hospital construction that it seems to leave nothing to be desired. A feature unique to hospitals in St. Louis is the location of kitchen and dining rooms on the top floor, a change which appeals to us tremendously.

Dr. Geo. W. Cale, chief surgeon of the Fricso, has removed his office from Springfield to the institution, and since October 22d patients have been received, and the work of the hospital moving in its normal groove.

Mississippi Valley Medical Association.

THE thirty-second annual meeting of this association convened in Hot Springs, Ark., on on Tuesday, November 6, with an attendance of about one hundred. The sessions were held in the Eastman Hotel, which is admirably suited for the purpose. Dr. J. H. Carstens, of Detroit, presided over the general sessions, while Drs. Frank P. Norbury and H. H. Grant occupied the chairs in the medical and surgical sections.

The small attendance is partially accounted for by the fact that the date conflicted with State elections in all parts of the country—a mistake which should be guarded against in the future.

The first evening was devoted to the address of the president, the orations on medicine and surgery, and later a reception and ball at the Arlington Hotel—all of which were thoroughly enjoyed by those in attendance. The address on Medicine, by Dr. Frank Parsons Norbury, and that on Surgery, by Dr. Florus F. Lawrence, reflected the progress being made along the lines of psychical therapeutics and surgical principles, and will both be found printed in full in this issue of the FORTNIGHTLY. Dr. Carsten's presidential address was a forceful argument in favor of unity and fraternalism, in which he paid a glowing tribute to the medical profession of the period.

The profession of Hot Springs spared no pains to make the event a success, both socially and scientifically, and the program included a trolley ride to the Alligator and Ostrich farms, coach rides up the mountain side, receptions at the residences and institutions, an inspection of the Army and Navy hospital, and closing with a "Deutches Bumperfest" at the Park hotel on Thursday evening. A more delightful series of entertainments has never been enjoyed by this society.

A detailed report of the scientific proceedings will appear in our next issue.

The nominating committee reported as follows the list of officers for the ensuing year:

President—H. Horace Grant, Louisville, Ky.

First Vice-President—G. A. Hebert, Hot Springs, Ark.

Second Vice-President—T. C. Witherspoon, St. Louis, Mo.

Secretary—H. E. Tuley, Louisville, Ky.

Treasurer—S. C. Stanton, Chicago, Ill.

The next meeting will be held at Columbus, O., in the fall of 1907.

DR. ALBERT ABRAMS of San Francisco is at present in Paris where he is devoting his time to research work and to the completion of the manuscript of his work on Clinical Medicine which is shortly to appear from the press of the Rebmans.

HOSPITAL SATURDAY AND SUNDAY COLLECTIONS.—The annual collections for the benefit of St. Louis hospitals by the Hospital Saturday and Sunday Association will be made December 1 and 2. The collection last year amounted to about $30,000. Considerably more is expected and needed this year.

DR. WILLIAM K. OTIS, of New York, a graduate of the College of Physicians and Surgeons in 1885, died at his home after a short illness of peumonia, September 22, 1906, aged 36 years. He was a son of Dr. Fessenden N. Otis and was following the general line of practice pursued by his distinguished father, and in which he himself was achieving fame. He was a member of many local and other societies and was professor of genito-urinary diseases at the New York School of Clinical Medicine. He also had service in several hospitals.

SALICYLIC ACID FOOD AS A PRESERVATIVE.—As a result of observations on a "poison squad" of twelve young government clerks, Dr. Harvey W. Wiley, Chief Chemist of the Department of Agriculture, has announced that while salicylic acid is not as harmful as a food preservative as has been generally supposed, its use for this purpose is reprehensible. Its administration was found to be temporarily stimulating to the digestive organs, but in the course of time the processes of nutrition were interfered with, and a loss of weight was noted in the members of the squad.

MEDICAL MEMORANDA.

Have used and prescribed resinol ointment and soap with very satisfactory results. Last case was one of eczema on face and shoulders, and of several years standing. The trouble has entirely disappeared with the use of one jar of ointment and one cake of soap.—Chas. Hubley, M. D., New York City.

Never Without Calcidin.—I have the highest regard and praise for calcium iodized—calcidin (Abbott) having in my own simple way no doubt saved the life of a child twenty months of age (one of twins)—croup complicated with congestion of lungs. The condition was grave: temperature 105.6; one convulsion after the other. The condition, as it was found, had been existing only six hours before my arrival. I ordered calcidin every ten minutes for two hours, then every thirty minutes with calomel, gr. 1-10, every thirty minutes; hot foot bath, in fact above hips; cold applications to head and neck, I expected the child to die, so did the parents when they called me. I returned in six hours. Temperature 101.8 and breathing very good indeed. In one week the child was well. Two years before I had a case exactly like this one, I have particulars, and the child died eight hours after I saw her. I think I am safe in saying I was the means, with the aid of calcidin and Nature, in bringing back the life that was fast coming to a close. I shall always use it. I am never without the drug a minute.—Dr. Frank S. Myers, Youngstown, Ohio.

THE A B C OF COCA.

A stands for Andes, the mountains so high.
B for the breezes which blow through the sky;
C stands for Coca—both Co and the Ca—
D "Divine Plant"—it was named by Inca.
E is the earth 'neath the clouds, far below,
F for the forests near where the shrubs grow;
G the gray rocks over which the mule packs
Huge bundles of Coca done up in sacks.
I for the Indian, without food or drink,
Jogging, untired, 'round high mountain's brink.
K is for Koller, with drop in the eye,
Learning new uses for Coca to try.
M. Mariani first made Coca wine.
Niemann's the chemist who found cocaine;
O for the ore, and some other things, too,
Plentifully found in the land of Peru.
Q is the Quichua Indian race,
Round as to limb but of angular face;
S for the strength of this plodding man, who
Travels all day with but Coca to chew.
U stands for you, if you will but admit
Vin Mariani has made a great hit;
Wine make with Coca—a tonic unique—
Xcellent both for the well and the weak.
You'll find it endorsed full fifty years through;
Zealously hold then, that found to be true.
—The Coca Leaf, September, 1905.

The Treatment of Cough.—Cough, regardless of its exciting cause, is a condition that every physician experiences more or less difficulty in relieving. While the agents designed for its relief are numberless, it is a matter of common knowledge that but few of them are of general utility for the reason that although they may be capable of effecting relief, and in doing so they either derange the stomach, induce constipation, or cause some other undesirable by-effect. The ideal cough cure must combine sedative and expectorant properties without exhibiting the slightest system-depressant, gastric-disturbing, constipation-inducing or palate-offending action. Nor should it contain any ingredient the prolonged use of which would cause a drug-habit. Then too, it must be of sufficient potency to produce the desired effect with the utmost promptness, for, in many instances the patient has indulged in self-drugging to a certain extent before consulting the physician; hence, it is directly to the interest of the practitioner to demonstrate his skill by immediately relieving the disturbing condition. It is now universally conceded that glyco-heroin (Smith) is the ideal cure for coughs of all varieties. This product embraces the most active sedatives and expectorant agents in the exact proportions in which they exhibit their greatest remedial potency. It matters not what the exciting cause may be, the effect of this preparation is always immediate, pronounced and extremely agreeable. The cough is almost instantly suppressed, the expulsion of the accumulated secretions is stimulated, respiration is rendered free and painless and the inflammation of the lining of the air-passages is speedily allayed by its use. Glyco-Heroin (Smith) may be administered for an indefinite length of time without any depreciation in its curative properties and without the induction of a drug-habit. It is of especial value in the treatment of pulmonary phthisis. It is pre-eminently superior to all preparations containing codeine or morphine.

Mucous Plaques: Prophylaxis and Treatment.—(By Edward H. Skinner, M. D.' Kansas City, Mo.) The proper care of the mouth is a matter of importance in the control of the secondary symptoms of oral syphilis, especially in view of the fact that the average leutic patient has all too little regard for any hygienic measures. In anticipation of the early onset of the secondary oral patches it should be the duty

of the physician to instruct his patients as to the proper prophylactic measures to be adopted that the severity of these symptoms may be ameliorated. The first thorough examination of the new leutic case should include the careful examination of the mouth and teeth. If we feel incompetent to judge of the conditions of the teeth we should refer the patient to the dentist. The roughened edge of a tooth, or an unfilled cavity, may serve as an irritant in establishing a mucous patch. The dentist will instruct the patient as to the proper care of the teeth. The cleaning of the teeth after meals, to avoid the accumulation of debris,should be impressively taught, We should also realize that the salivation may best be avoided by the attention to the condition of the teeth and gums. Anticipating the secondary symptoms we usually attempt to promote the general health of the individual by tonics and bodily hygiene. We should also try to increase the cellular resistance of the buccal membrane by local measures. It may be well to consider means to this end at this time. Bartholow considers a number of drugs to be used locally. Hydrastis canadensis is recommended as a stimulant to mucous membranes. It also has a valuable astringent quality and promotes the salivary secretions. Hamamelis virginica is also valuable in advancing the prophylactic powers of the mucous membranes. Thymol and menthol have valuable properties, influencing fermentation and putrefaction, and also serving as antiseptics. They allay the sensibility of the mucous membranes and arrest the retraction of the gums. Boric acid has decided antiseptic and deodorant properties. This acid was an important factor in the original Lister antiseptic method. Being very mild, it may be used in varying strengths without danger. Glycerine has a beneficial effect on all mucous membranes,inasmuch as it dehydrates and soothes any tissues it may touch. Combinations of the above remedies may be made that will serve not only as valuable prophylactics, but also as curative agents in any inflammation of the mucous membrane. But we should remember that the application will avail little if the patient does not assist their action by the careful cleansing of the mouth and teeth at frequent intervals, not being afraid to use the greatest remedy of all—pure water. When once the mucous patch has asserted itself we should try to avoid the ulcerating and sloughing process that accompanies the oral syphilide. It is at this time that our prophylactic measures show their true worth. The mucous patch rarely spreads in the clean mouth. Foul secretions and decomposing food stuff favor the ulceration of the patches. The best local application for a patch is the silver nitrate pencil. One application a day will usually suffice. An antiseptic mouth-wash should be used by the patient about every three hours during the day. Among the various combinations on the market today one will find that katharmon offers advantages. The internal administration of mercury should be pushed. If we find that the patches persist in spite of the above treatment we should try a short regime of the iodides. Very frequently the stubbornness of the oral features of syphilis may be due to the mercury treatment. It is in these cases that the withdrawal of the metal and the substitution of the iodide, with the use of remedies to cure the ptyalitic symptoms, will afford relief.

Substitution in Medicine.—In a recent case of death from poisoning, the druggist who gave the wrong medicine offered as an excuse that he had merely substituted one article for another on the supposition that it was of equal strength and much cheaper. The prescriber, in testifying on the trial, stated that the practice was a very dangerous and very frequent one, and was apparently past remedy. While the latter may or may not be the case,it is quite certain that with many who claim to be reputable and competent pharmacists the practice of substitution is very common. The number of protests made from time to time in medical journals have reference to only a small percentage of offenders, inasmuch as the larger number of such do not happen to be discovered. The question of prevention, however, is a very serious one from every point of view. The physician, in his direct and responsible connection with the trustful patient is the one most concerned, although drug manufacturers also have a right to claim fair play regarding the guaranteed qualities of their products. With both parties it should be the real thing or nothing. From the business point of view it is a fraud on the producer, and, from the ethical view, a danger to the consumer. Both parties in the compact have thus a common cause against the middle-man who surreptitiously plays the part of thimble-rigger and steerer. The temptation to substitution is always strongest with the most expensive medicaments, and in the case of such as have a known quality of efficacy. An inferior, and oftentimes inert, article is almost invariably used when substitution is practiced. Thus the manufacturer and the prescriber are always placed in a false light with the patient, who expects certain promised results. Generally speaking, the physician is the one to suffer most, as his disappointed client is apt to leave him for another. How many lost patients can be accounted for in this way it would be difficult to imagine. The too trustful physician is in a very bad way between the prescribing druggist on the one hand and the ever-ready substitutor on the other. Must he be compelled to turn dispenser himself in sheer defense? Certainly, in some cases, the crime has in this way met its penalty. But when we look about for a remedy against the evil we butt against the bulwark of general depravity and the impossibility of applying ordinary missionary efforts. The only thing is to discover and then to punish. The man who substitutes will do so again. He has no conscience to begin with and nothing, in fact, to which an appeal can be made. The whole question then narrows itself down to that of mutual trust and the dispensing of original unbroken packages.—Medical Record.